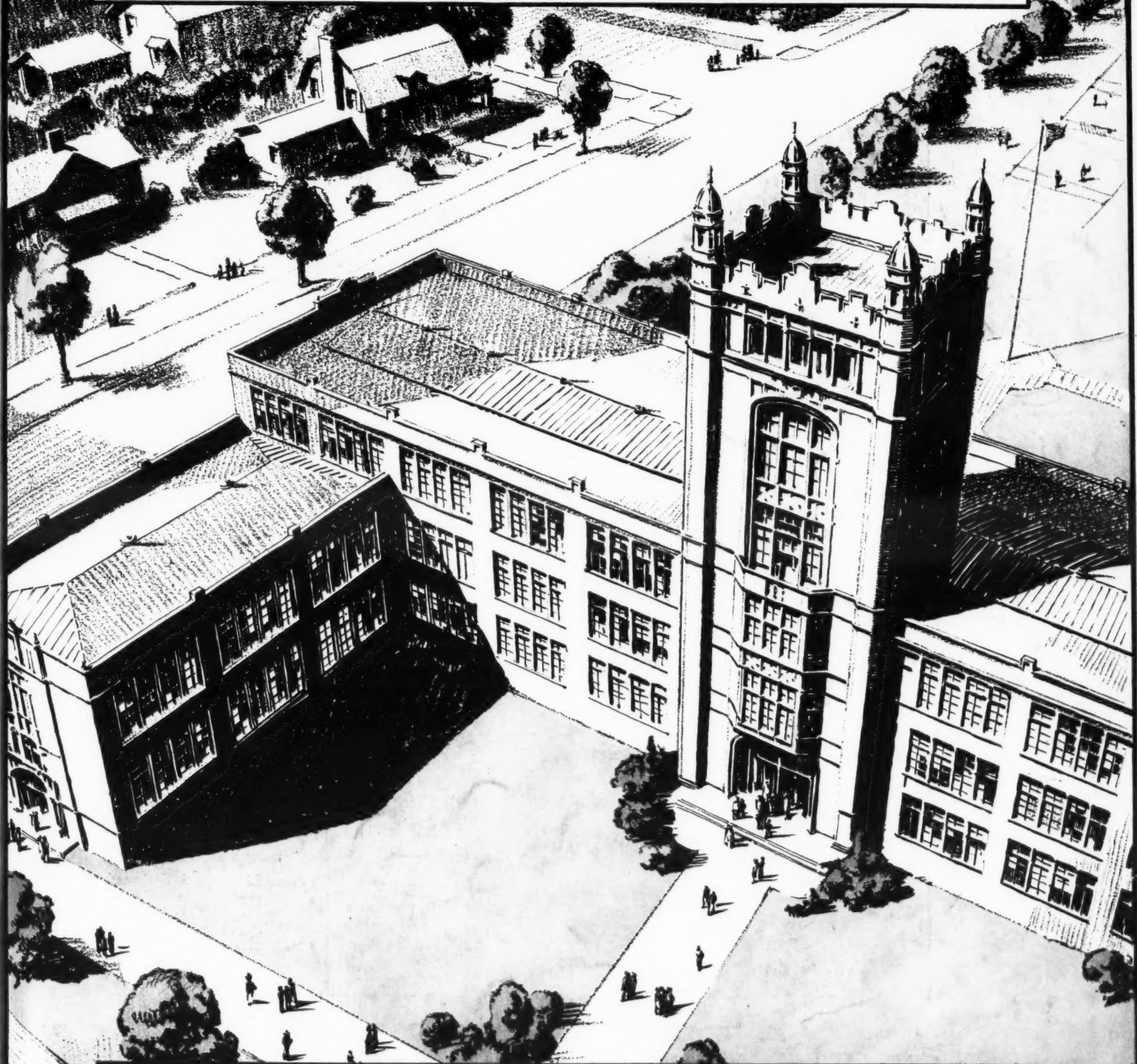


THE AMERICAN School Board Journal

A PERIODICAL OF SCHOOL ADMINISTRATION



JULY 1931
ANNUAL SUPPLIES AND EQUIPMENT NUMBER

THE BRUCE PUBLISHING COMPANY • MILWAUKEE • NEW YORK • CHICAGO

CHILDREN ARE CARELESS . . .

. . . but Vogel No. Ten-A Closets are designed with this in view



Vogel Number Ten-A Seat-Action Closet Combination. Can be supplied with syphon action, or syphon jet bowl.

CHILDREN are always in a hurry—naturally they forget to flush closets—Vogel Number Ten-A closets are seat-action—they flush every time—children cannot forget.

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THE AMERICAN School Board Journal

A PERIODICAL OF SCHOOL ADMINISTRATION

Devoted to the Interests of School Boards, Superintendents,
School-Business Officials, and School Architects



VOLUME 83
JULY—DECEMBER, 1931

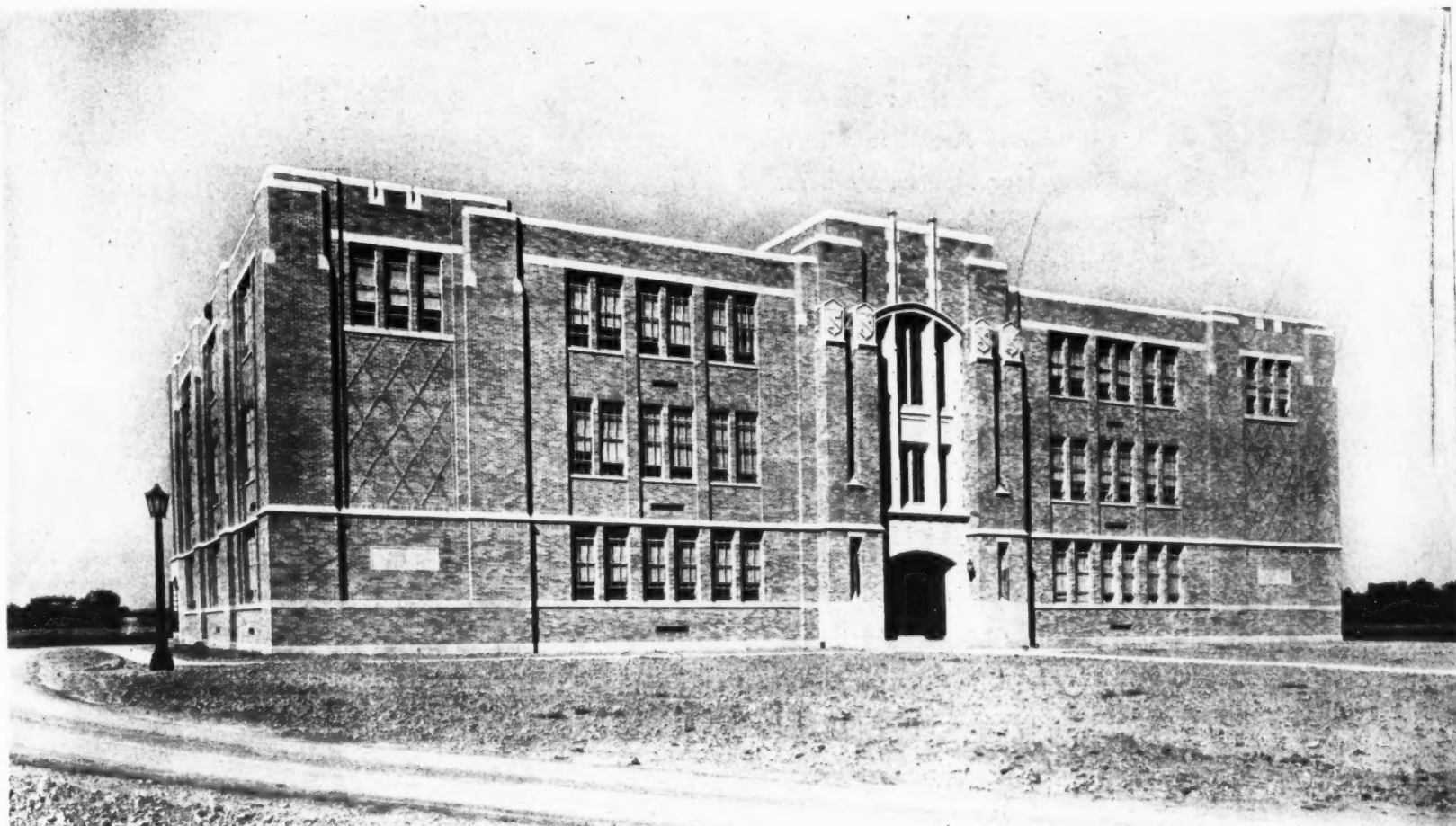
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THE JORDAN HIGH SCHOOL, JORDAN, N. Y.

Architect Earl Hollenbeck, Syracuse, N. Y.



The slate blackboard in your classroom is an important piece of school equipment. The proper care of this board is essential. Each day, when classes adjourn, the slate blackboards should be washed thoroughly with clean water. Wash each section individually and take off all water with a squeegee. Change wash water frequently. You will preserve your boards and keep them in a clean, fresh condition. Slate is a solid material. It is the same right through the entire thickness of the board. Its velvet-like texture makes writing a pleasure. Ask for our two interesting books on "Pyramid" Natural Slate Blackboards.

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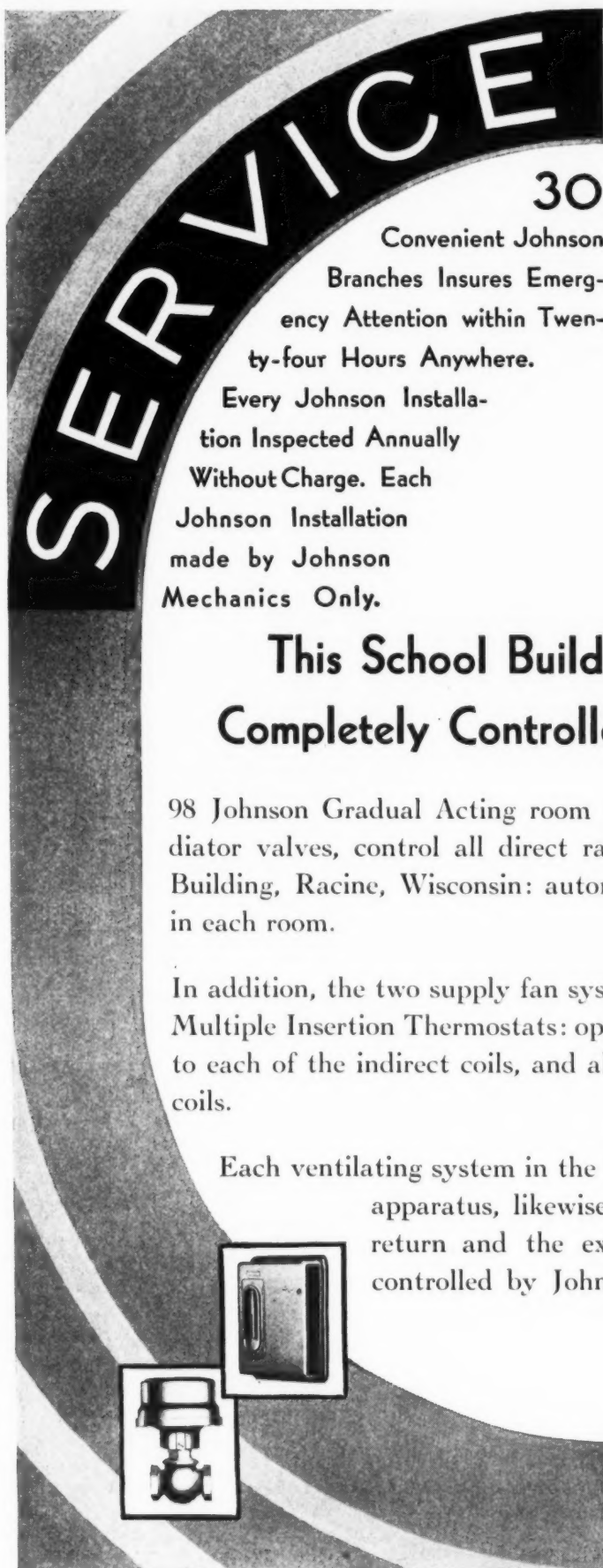


NATURAL SLATE BLACKBOARD COMPANY

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BRANCH OFFICES IN ALL PRINCIPAL CITIES





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J. Mandor Matson, Racine, Architect.

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98 Johnson Gradual Acting room type Thermostats, operating 159 Sylphon radiator valves, control all direct radiation in The William Horlick High School Building, Racine, Wisconsin: automatically maintaining the proper temperature in each room.

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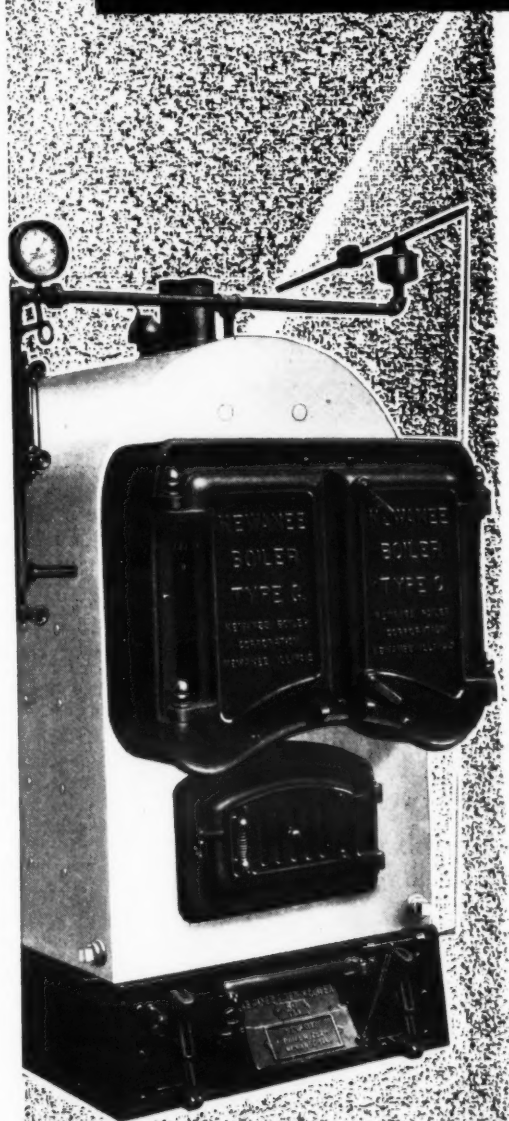
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Self-Releasing Fire and Panic Exit Latches

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Here's help for schoolmen who have repair work to do this summer.

At your request, we will be glad to send you a chart showing all parts of every Von Duprin device we have ever made.

*Catalog 28V shows a
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for every purse and
every purpose. Or see
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C3892-C3896*

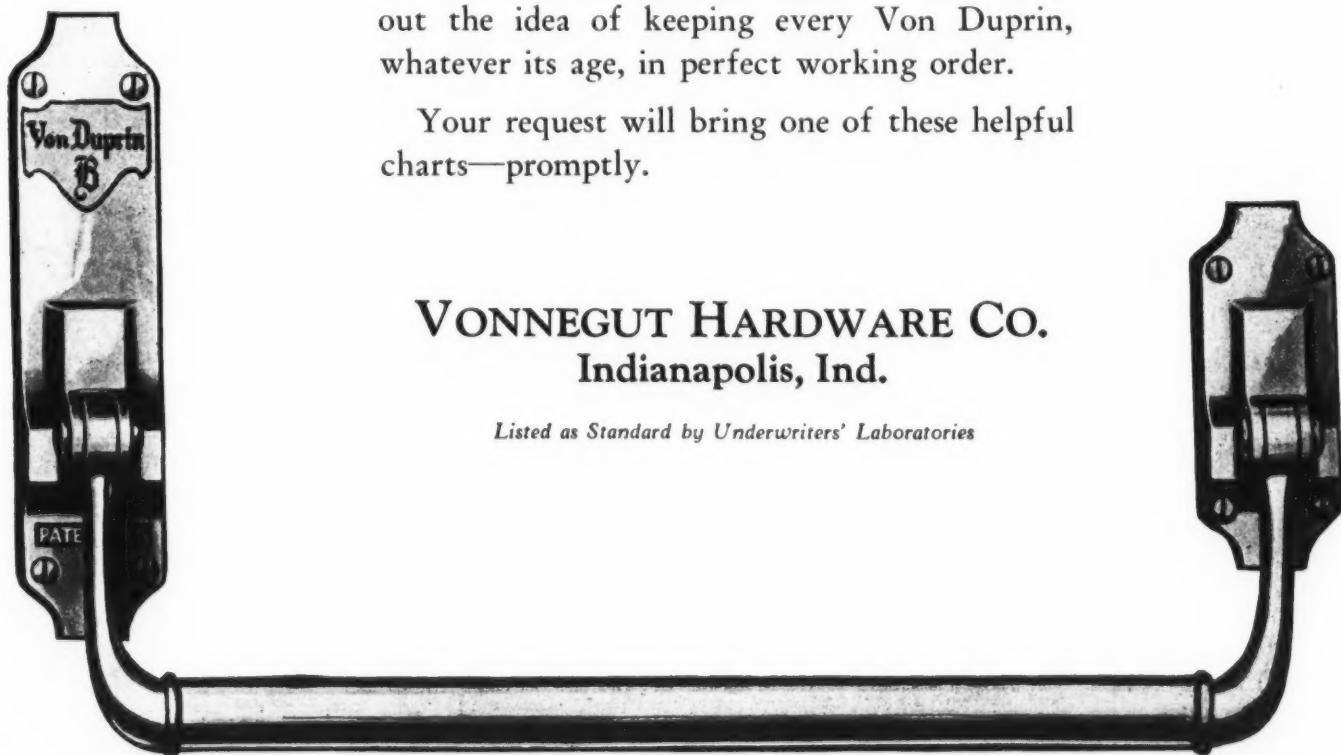
In many instances these charts have made possible the repair of old devices at nominal cost, without the necessity of sending them to the factory.

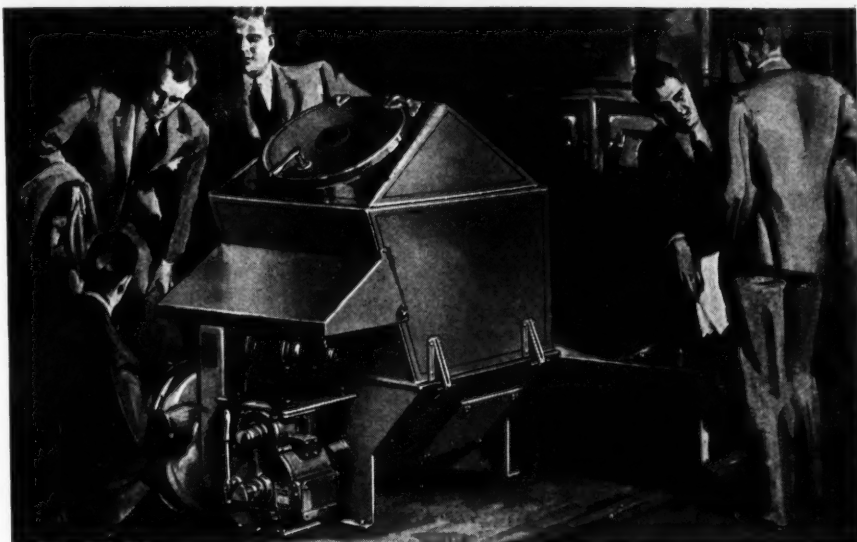
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Iron Fireman burns the smaller sizes of coal, which cost less per ton. It cuts fuel costs, provides steady, uniform, healthful heat, reduces labor costs, and eliminates the smoke nuisance. Schools from coast to coast are quickly paying for their Iron Fireman Automatic Coal Burners from fuel savings alone, and these savings continue year after year. In addition, they enjoy all of the advantages of *automatic coal heat, the finest and safest that money can buy.*

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Higher standards of cleanliness. The central system is the only method which removes all dirt and dust from the room. With light tools, and inlet valves spaced conveniently in every room, the time required to clean the building is reduced. All moving

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2

Saves Decorations. Because there is no dust, the need for frequent washing of walls, furniture, etc., is not necessary. This saves on painting and redecorating costs.

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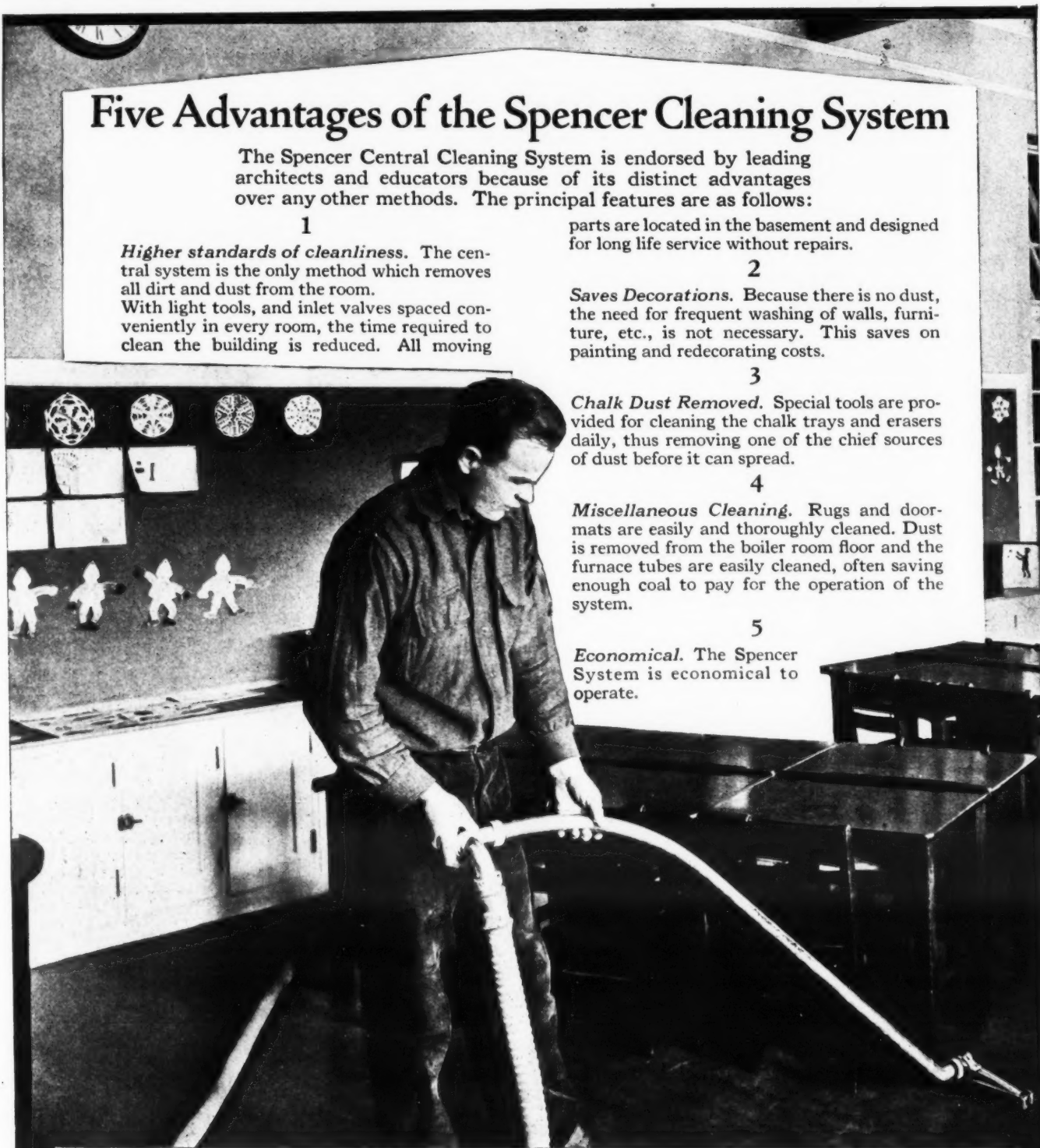
Chalk Dust Removed. Special tools are provided for cleaning the chalk trays and erasers daily, thus removing one of the chief sources of dust before it can spread.

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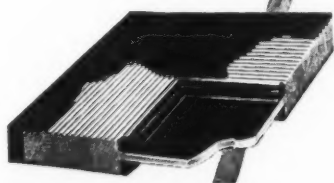
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West End House,
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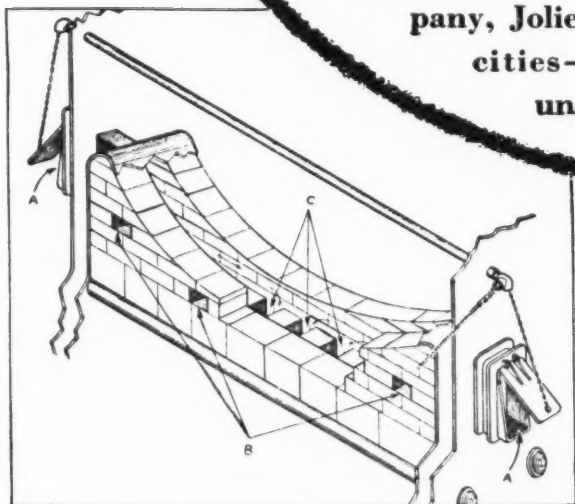
Like dry tinder — the soot laden gases of soft coal ignite the instant they strike this turbulent whirling mass of incandescent flame!

They burn and their usable heat units are utilized—because in this new Heggie-Simplex Smokeless Boiler there is always the right amount of oxygen to effect complete combustion. The additional oxygen necessary to burn bituminous coal smokelessly, but which can not be drawn through the fuel bed alone, is introduced through a special “carbureting chamber” over the fire.

Built of refractories, this chamber not only introduces the necessary

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For complete facts, write Heggie-Simplex Boiler Company, Joliet, Ill.; representatives in principal cities—telephone and address listed under “Heggie-Simplex Boilers.”



The “Carbureting Chamber” of the Heggie-Simplex Smokeless Boiler

Air is drawn in through intake doors (A) on both sides of the boiler. Volatiles arising from the fresh fuel are admitted through ports (B) in the forward wall. This inflammable mixture is thoroughly heated by the hot refractory walls of the chamber. It is ready for instant combustion when it passes through the jets (C) to mix with the gas stream flowing under the chamber.

Note there are no bothersome ceiling pulleys, long chains, etc. The operating device is “built in” the boiler.

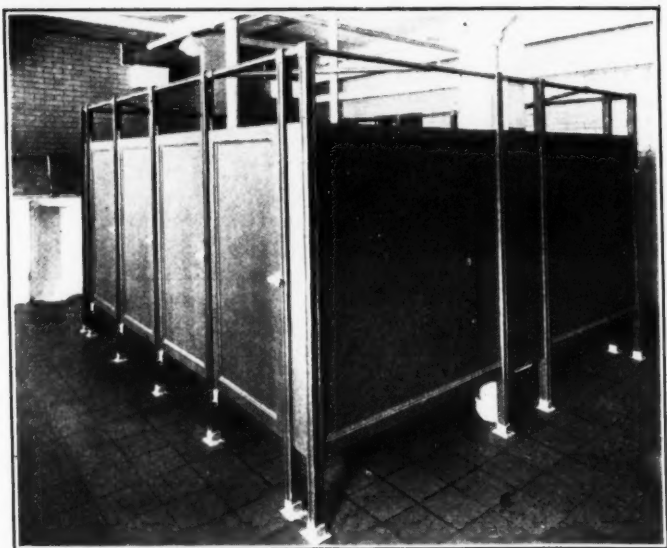
HEGGIE-SIMPLEX

STEEL HEATING BOILERS





FOR SCHOOL TOILETS AND SHOWERS

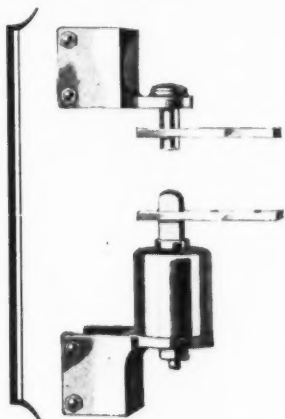


IN CATHEDRAL LATIN SCHOOL, CLEVELAND

"Shrivel" — a new and attractive Sanymetal Finish

THE NEW Sanymetal Shrivel Finish—in black, gray or green—is something different from the usual plain finish, and especially adaptable to school installations because it discourages pencil scribbling and defacement. It also "dresses up" the appearance of a toilet very nicely.

This new Sanymetal Unit Panel Toilet Partition responds to a popular demand for a metal enclosure with every requisite for good appearance and long life—yet so simplified in design as to represent a new measure of value for your partition dollar.



SANYMETAL Full-Floating Ball-Bearing Gravity Roller HINGES

are designed for use on toilet doors or partitions of any material — marble, metal, slate, or wood.

Write for Bulletin 51.

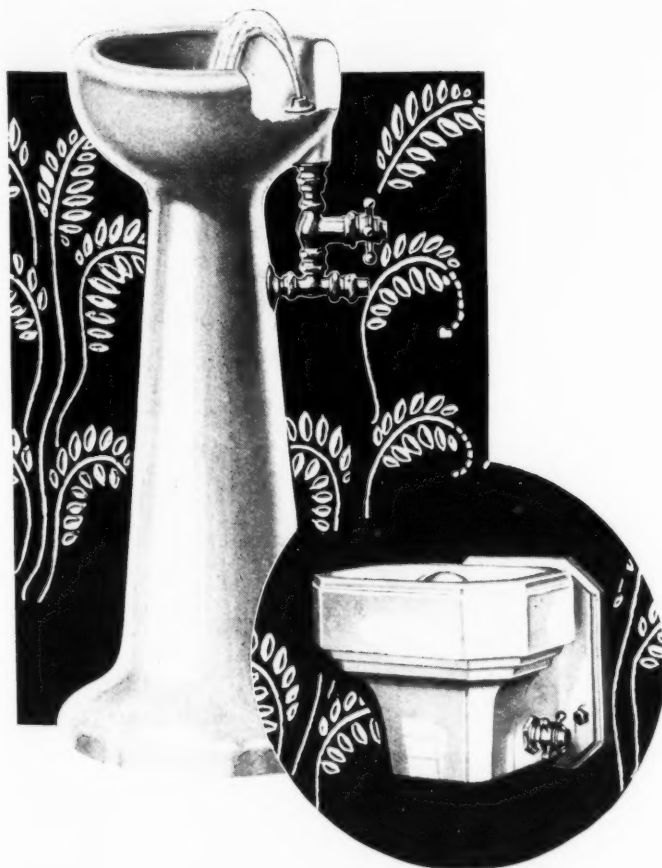
Sanymetal Products for Schools are: Toilet, shower, dressing and urinal compartments. Corridor and smoke screens. Metal doors and wainscot. Sanymetal Gravity Hinges. Write for New Catalog No. 30.

The Sanymetal Products Co.
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Sanymetal

STEEL PARTITIONS

WAY PAST THE DAYS of the Old Tin Cup



Many vital improvements have been made in drinking methods, but, heading the list is the R-S Vertico-Slant Sanitary Fountain.

This fountain never feels the touch of contaminated mouths and lips. It prevents them from even coming close to the jet that spouts the water.

The Vertico-Slant with the water passing angularly from jet to mouth makes each drink a safe and sanitary one. Write for bulletin.

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LIPS CAN NOT TOUCH THE R-S NOZZLE





He Took Up the Draftsman's Pencil to Battle Constipation

The daily output of a lathe operator drops. A child grows listless and inattentive as the school day drags into afternoon. An office worker slumps idly at his desk, neglecting the work before him.

The boundless energy that drove a business genius to the top rung of the ladder, slips silently away, leaving only a dull clod of a mind and body.

Yet doctors tell us that constipation is really nothing but a habit—or rather the lack of one. It is a chronic disorder, of millions, induced by irregular evacuation during youth.

The Clow Soldier of Sanitation took up the draftsman's pencil to fight this enemy of modern man and industry.

His first attack was for the coming generation. It resulted in a closet bowl, efficiently designed to make evacuation easier and more certain for school children.

For many years careless designers had been inflicting high bowls upon children in school toilet rooms.

The seat of the Clow Bowl was lowered, 2 inches closer to the floor. The position of the child is

natural, with knees high and stomach muscles relaxed. Thus by making evacuation easier, regularity is made more of a habit.

Following this first bowl have come others on the same idea to help grown-ups in all walks of life. And the Soldiers of Sanitation score another important victory in their battle against uncleanness, pollution, ill-health and inefficiency.



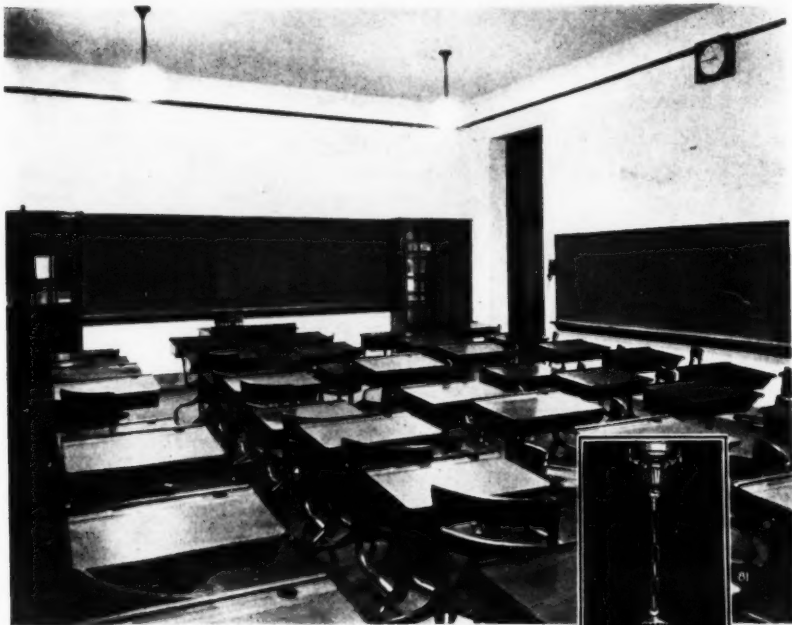
The Clow Soldier of Sanitation is a specialist on the acute problems of sanitation that confront every builder of a school, hospital, industrial plant or other public building. At his finger tips is the accrued experience of Clow's 52 years experience—at his back the complete line of fixtures to meet every mass plumbing need. Call him in. This is Jerry Kinnally, Chicago Office—Arch. Rep.

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Photograph of Classroom lighted with the Holophane Reflector-Refractor

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Seeing and learning are so closely related that even the best teaching methods cannot enjoy full success in poorly lighted classrooms.

Holophane Planned Lighting makes learning easier by providing plenty of light, evenly distributed, well diffused, and free from glare.

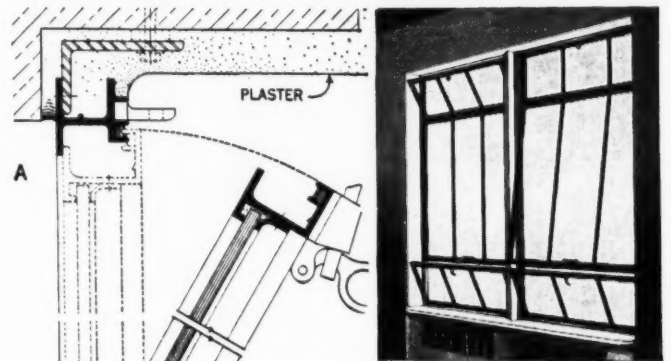
Write for further information, and list of Holophane Planned Lighting in Schools and Colleges.

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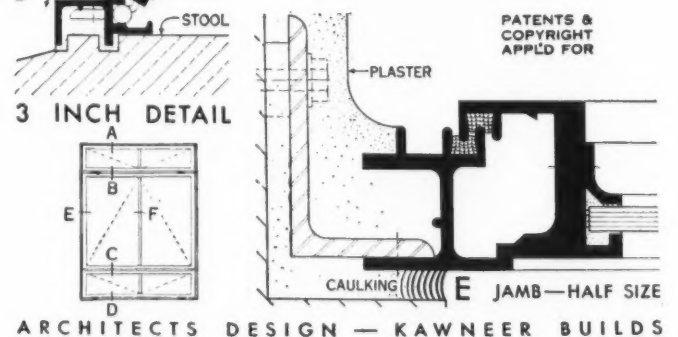
THE EXTERIOR CAN BE WASHED FROM INSIDE



WE GUARANTEE THIS WINDOW TO BE WEATHER, DUST AND RATTLE PROOF.

FULL SIZE

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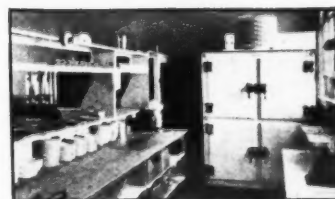
Furnace Creek Inn, Death Valley

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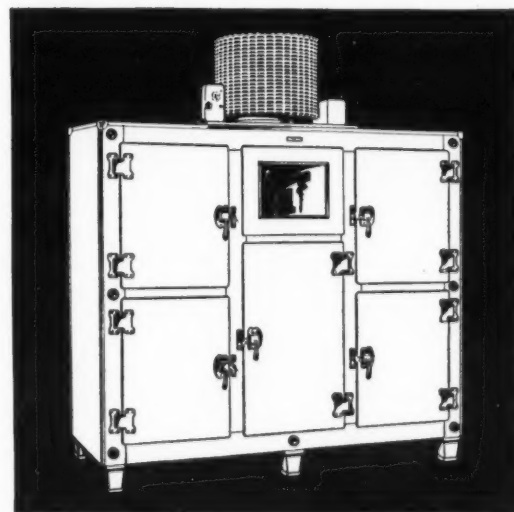
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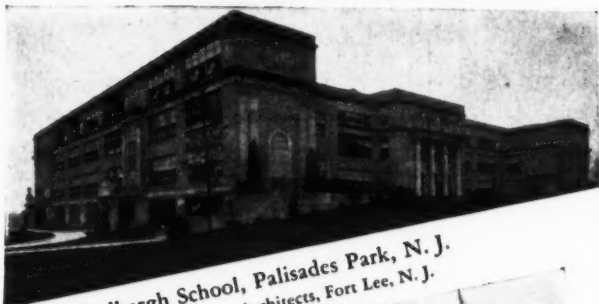
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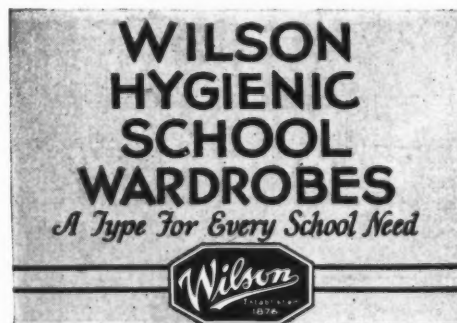
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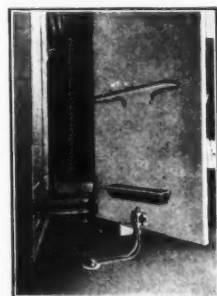
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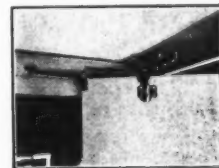
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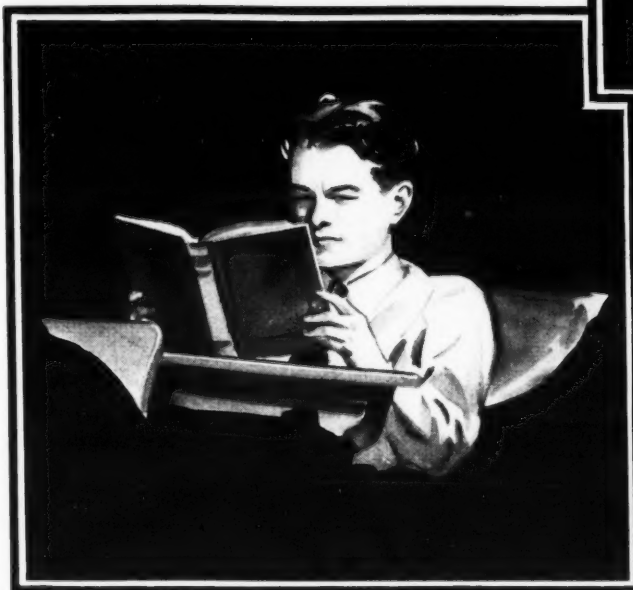
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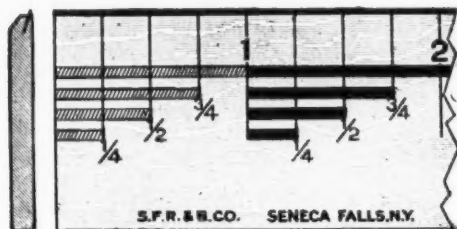
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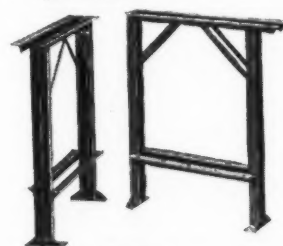
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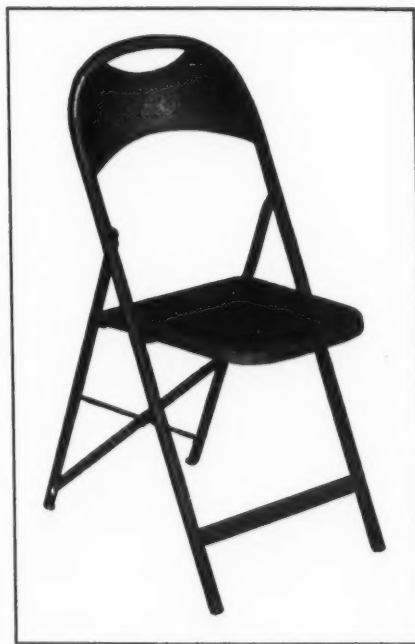
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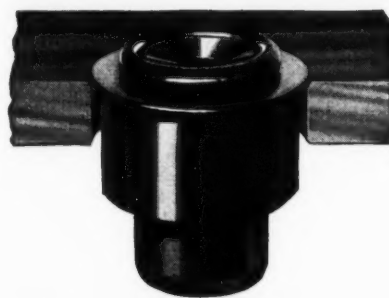
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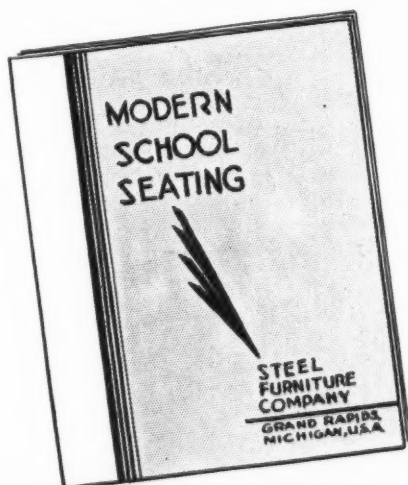


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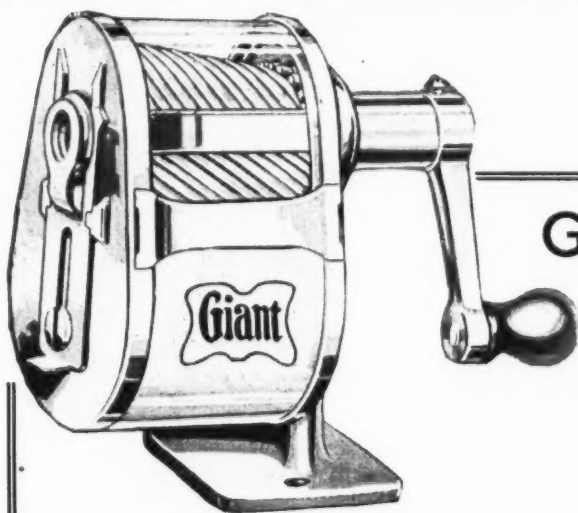
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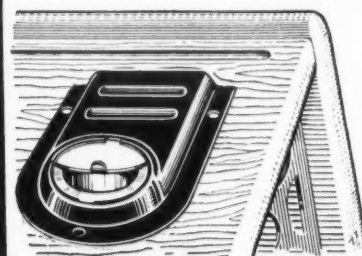
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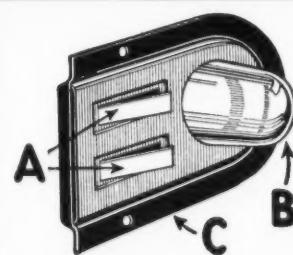
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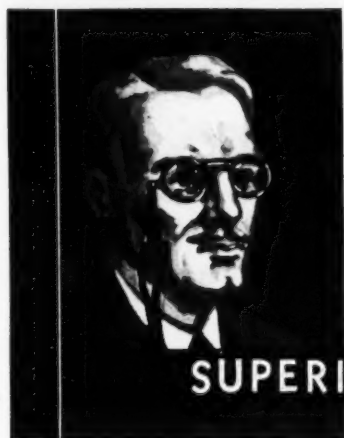
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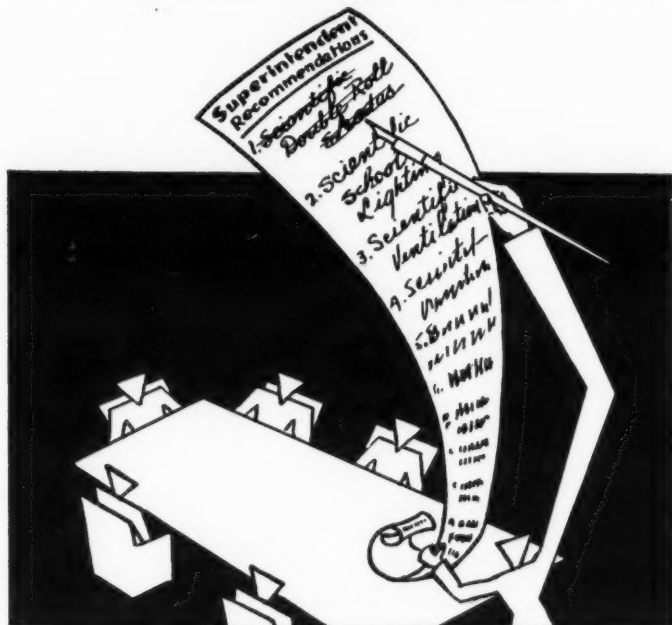
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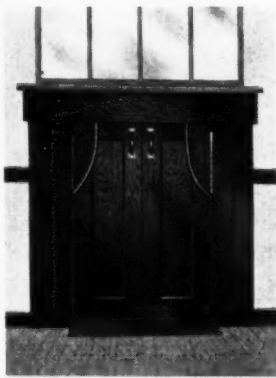
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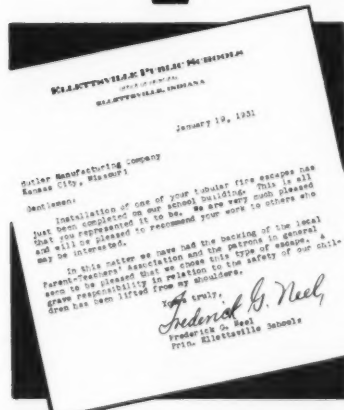
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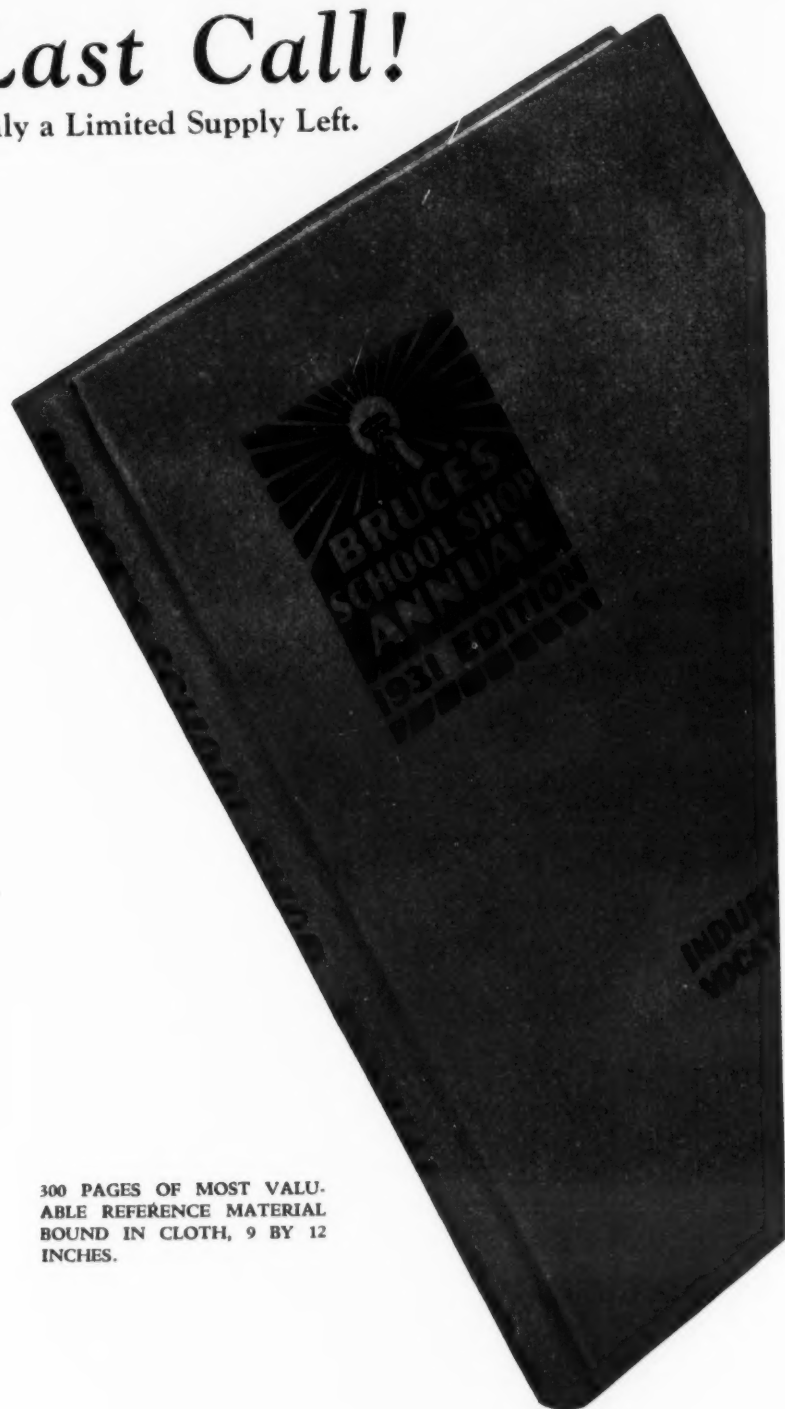
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AN EXCERPT

from the Introduction to the
1931 Edition of

BRUCE'S SCHOOL SHOP ANNUAL

The 1931 ANNUAL comes to the reader with entirely new editorial material, new school-shop layouts, and a new arrangement of subject matter. Forty-one state directors and supervisors have contributed statements on the progress made by industrial arts and vocational education in their respective states. These reports furnish the reader with a complete review of the work done in this field of education throughout the United States and Canada, and the ANNUAL is the only single source from which this material is obtainable.

The section presenting descriptions of industrial arts and vocational education systems in cities of various sizes was so favorably received in the 1930 edition, that it was thought wise to include it again this year. Accordingly, the men who are responsible for the work done at Corvallis, Oregon; Tulsa, Oklahoma; West Allis, Wisconsin; and Erie, Pennsylvania, have contributed comprehensive articles describing the systems in their respective cities.

General objectives of industrial arts and vocational education, as well as a comparison between these two phases of education, are discussed in this issue by well-known educational leaders.

As in previous years, a number of new school-shop layouts are shown in each section. These school-shop plans are of great assistance to those upon whom the duty of shop planning devolves. They also serve admirably as typical examples of what is being done, to the students who are taking organization or shop planning courses in teacher-training schools.

To the woodworking, metal-working, drafting, electrical, sheet-metal, printing, automotive, and general-shop sections, which have appeared in previous issues, a section on farm mechanics shops has been added. Besides this, the content of the ANNUAL has been enlarged by an exhaustive article on the correct solution of the storage problem, which frequently proves so troublesome in the school shop.

A number of the equipment and supply lists, which have been a part of the ANNUAL since its inception, have been revised. The courses outlined in this issue are, for the most part, on the high-school level. The articles on the care and storage of equipment and supplies, contributed by men who have a thorough knowledge of these things, will be found helpful by many instructors.

Filled with material which the publishers have tried to make as helpful as possible to those who are engaged in the fields of industrial arts and vocational education, the 1931 edition of BRUCE'S SCHOOL SHOP ANNUAL is going forth on its mission of service with a hearty welcome to all of its friends, both old and new.



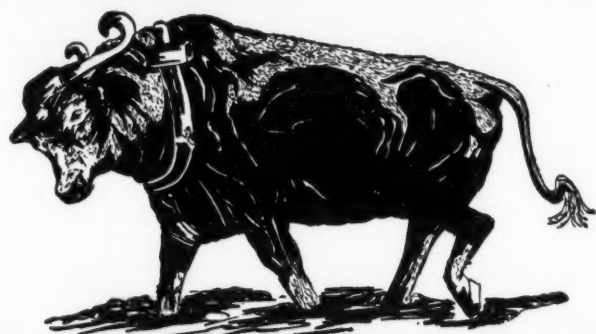
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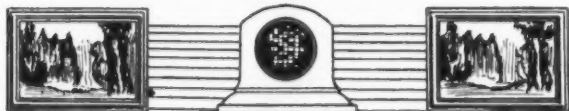
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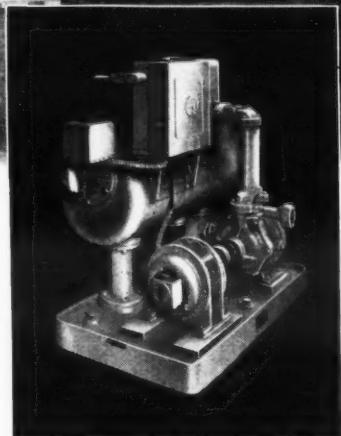


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What About Quality in School Supplies

In the world of business the variations of quality and price tip the scales of a bargain. Likes and dislikes, the element of friendship—all become minor factors. The law of supply and demand rules. Quality and price determine sales.

In the field of school supplies and equipment, it would seem that special emphasis should be placed upon the quality factor. Such a statement not only implies that there are poor as well as good supplies, but it proceeds upon the thought that quality in this instance means adaptability, utility, and service.

The processes employed in the operation of a school plant call for aids and agencies that are best suited to its purposes. While the cheap and tawdry is an obvious thing, the difference between the highly utilitarian and the article that is only apparently so, is not always clear.

There are times when the tendency to look at the price mark, before testing quality, is strong. We live in such a time at present. The dollar, it is believed, must cover quantity rather than quality.

Experience has taught that there may be a wide difference between mere cheapness and an article that commands a fair price. The device or apparatus that is properly designed, honestly constructed as to materials and workmanship, and that is highly utilitarian in point of service, is eventually the most economical.

Thus, quality at a reasonable cost, rather than an indifferent quality and cheapness of price, must control the purchase of supplies and equipment. The conscientious school official cannot ignore the standards that must be observed in the purchase of the paraphernalia upon which the efficient administration of a school system so largely rests.

THE EDITOR.

TITLE PAGE AND INDEX READY

The Title Page and Index have been prepared for Volume 82, including the first half of the year 1931. Copies will be sent to any subscriber upon request.

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Editorial Material—Manuscripts and photographs bearing on school administration, superintendence, school architecture, and related topics are solicited, and will be paid for upon publication. Contributions should be mailed to Milwaukee direct, and should be accompanied by stamps for return, if unavailable. Open letters to the editor must in all cases contain the name and address of the writer, not necessarily for publication, but as evidence of good faith.

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Mark Wright, Member of the Clearfield School Board

SELECTION OF TEACHERS

Our new superintendent of schools has promised to submit a report of some one item of school management at each of our monthly board meetings for the remainder of the school year. He agreed to this proposition at the unanimous request of our board members. His reports for the past nine months¹ proved so helpful in clearing the atmosphere that we voted to ask him to attempt to clear up each month some problem of the management of our local school system.

His report this month discussed the problem of selection of teachers. Again we were just a trifle surprised because of misconceptions we had of the fundamental principles involved. But we were pleased too. For now we felt we could prevent what in the past had seemed beyond our power to prevent, namely: the selection solely for local or family reasons, of teachers who had not proved always to be of the type desired for Clearfield.

One such case had worried us especially in recent months. A year ago a local girl upon graduation from one of our state normal schools had applied for a teaching position. Her record at normal school showed her possessed of only very mediocre teaching ability. However, her family was prominent in town with the result that there seemed to be only one thing to do. Against our combined better judgment, therefore, she had been employed. Trouble had resulted with her discipline and otherwise. But her father had persisted in his attitude that the schools existed to provide places for local teachers. And there the situation, though distinctly precarious, rested. Since this case, so prominent in our own thinking of late, had come already to the attention of the superintendent, he had decided to discuss with us this month the whole question of the selection of teachers.

This report, as adopted and recorded in our board minutes after much discussion and some revision, reads as follows: The case of Miss B——, which has caused me, as well as you, some concern this month, leads me to try to formulate with your help and coöperation, certain basic principles of action for the selection of teachers at any and all times.

Eight Fundamental Principles

One of the first steps in improving conditions in this regard is to get more clearly in mind certain fundamental principles of action which apply to the work of the schools at all times. These may be stated briefly as follows:

1. Schools exist for the education of the children. Each child in the community is entitled to the best educational advantages, including the best teachers, which the community can afford.
2. The schools do not exist to provide jobs for teachers. No person is entitled by right to a teaching position. The sole basis for selection should be available training and experience.
3. The following local factors should be ignored: religion, politics, and family affairs or connections.
4. The locality from which a teacher hails is of small consequence. The same quality and degree of preparation or experience should be required of "home girls" as of any others.
5. Anyone may file an application for a position. The board, however, may invite especially competent teachers who may never have applied, to fill vacancies. In other words, the board should reserve the right to pass over all applicants in favor of a teacher who has not applied, should such a teacher in the opinion of the board be considered a better candidate.

6. The employment from year to year of some teachers from outside the immediate community makes for the best interests of the children.

7. Teachers who desire to be retained in the school system must keep their work "professionally alive."

8. A high degree of community service, both within and without the classroom, should be a definite basis for any teacher's retention.

Some Useful Standards

Careful reflection upon the foregoing points should indicate the fundamental importance of these principles to the welfare of the children of our schools.

Another step toward better conditions for the selection of teachers is to fix certain definite standards as a basis for teacher employment. Such standards have been set up by the state board of education in our state. They are printed in a document entitled "Rules and Regulations Concerning State Teachers Certificates." This document gives both the board and the superintendent a foundation to stand upon. Some of the essential rules are quoted herewith:

1. Each person employed as teacher, principal or supervisor shall be in possession of a valid certificate at the time he begins teaching.
2. The obligation for holding the proper form of certificate rests with the teacher. To receive a certificate the applicant shall:
 - a) Be at least 18 years of age.
 - b) File all necessary school records, listing previous academic or professional training.
 - c) File satisfactory testimonials as to moral character.
 - d) File a physician's certificate that the applicant is in good health.
 - e) File, in case of previous public-school teaching experience, satisfactory testimonials of teaching success.

Other regulations from the same document explain the minimum of training required for each type of teaching position. In substance they may be expressed as follows:

1. No one coming into the profession for the first time shall be eligible for a position in the kindergarten and grades 1 to 6 who is not a graduate of an accredited two-year normal school.

2. No one coming into the profession for the first time shall be eligible for a position in an intermediate school or in a high school who is not a graduate of an approved college or university, or a graduate of a four-year high-school teachers' course of a normal school. In addition, unless college or normal-school credits show 30

BEAUTIFYING SCHOOL GROUNDS

Hundreds of school sites can be transformed from ugly, undeveloped, and unkept, unusable space into beautiful school sites which will provide "a magnificent setting for the school building and ample free play and athletic field accommodations to provide for all school needs at a cost of a mere pittance as compared with the spiritual and educational returns to be received. Is your school site one of these? Why not make beauty one of the natural teachers in your school and have her stand guard, an everpresent inspiration, wherever the child may be while in school, whether within the building or on the school grounds? Imagine what changes can be wrought in your school through definite long-time planning over a period of years, and then set to work. Let beauty be its own reward. — J. H. Hixson, Albany, New York.

hours of principles and methods of secondary education plus 60 hours of educational psychology, plus evidence of proficiency in the subject or subjects to be taught, the applicant must pass examinations in these subjects.

While these requirements rank high among those of many other states the essential difficulties of teacher selection remain, no matter what the level set by the minimum requirements of state or local boards.

With the foregoing ideas and ideals in mind, the following rules for action are suggested:

1. All teachers, principals and supervisors shall be nominated by the superintendent of schools. In the case of elementary-school teachers all elections shall be to a position in the schools, all assignments to positions being left to the superintendent. This is made necessary by the fact that it is frequently impossible to gauge accurately in advance the actual grade placements of all teachers.

2. The board may either approve or disapprove these nominations, but shall have no power of substitution of names of its own selection.

3. In case any nomination is disapproved, the superintendent shall nominate a new candidate for the vacancy.

4. The individual members of the board shall refer all applicants to the superintendent of schools. Discussion of this point resulted in the addition of the following suggestions by vote of the board for the guidance of each member:

a) Members of this board as individuals should refuse to discuss positions, vacancies, or promotions with any teacher or applicant.

b) To any person or persons who may approach any member regarding a vacancy or promotion, let this statement be given: The board has given the power of nomination to the superintendent. Members of the board as individuals do not wish applicants or their parents or friends to approach them regarding any position or promotion.

c) Announcement of this vote shall be made at once through the local press.

Action by the Superintendent

So much as a basis of coöperation and understanding between school board and superintendent for the selection of teachers. One final word as a pledge of action from the superintendent will help perhaps to keep the atmosphere clear. Teachers will be nominated for election or promotion upon the basis of the three considerations as follows:

(Points 1 and 2 to count approximately 25 points each as a maximum and point 3 to count approximately 50 points as a maximum. In the case of a beginning teacher, points 1 and 2 to count approximately 50 points each as a maximum.)

1. *Professional training and experience.* The minimum training and experience required by state or local rules will be given a low rating. An excess of experience or training of doubtful value as preparation for the particular vacancy or promotion under consideration will also be given a low rating.

2. *Personality and adaptability to teaching—* with a personal interview as the major basis for judgment.

3. *Evidence of professional success.* Only confidential letters of recommendation to be considered, and these to be from those in educational work who can speak regarding professional training and teaching success. Actual classroom observation of the candidate at work shall be, whenever reasonably possible, the basis for rating.

Well, there we are. A large share of the responsibility for the selection of teachers rests now with our superintendent of schools. And each member of the board feels again the satisfaction of a job well done.

¹See JOURNAL, September, October, November, December, 1930, January and May, 1931.

The Place and Function of the City Superintendent in Supervision

Prof. Wm. G. Brink, Northwestern University, Evanston, Illinois

Any discussion such as is proposed by the topic of this paper must proceed upon the assumption that if supervision is carried on in accordance with the best of existing principles, it will produce certain desirable changes in pupils and in the teaching staff. There exists as yet little scientific information as to the value of supervision. It seems obvious, however, that its effectiveness must be determined primarily upon the basis of the achievements of pupils. Throughout the development of supervision, the pupil has been the center of importance. Since this is true, it is but natural that the literature of the field has stressed specific techniques for pupil and teacher improvement. More recently, much emphasis has been given to the problem of organization; an entire book has been written on this aspect of the subject.¹ Little attention, however, has been given to the place and function of the superintendent in supervision.

The problem has become especially acute with the rapid increase in the size of cities and the corresponding increase in the number of supervisors. In the early days of the history of supervision, the superintendent devoted most of his time to teaching and only a small part of his time to supervisory activities. As the size of school systems increased, the amount of time which he could give to teaching gradually decreased and a larger part of his time was thus freed for the supervision of instruction. When cities grew large enough to maintain several elementary schools and one or more high schools, it became imperative for him to delegate to specialists some of the supervisory duties which he had formerly performed. This practice has not developed without its defects. To quote Strayer and Englehardt:² "Too often additional supervisory officers have been added to the school system from time to time without any proper coordination of their functions. The logic of the situation is very simple. There must be a chief supervisory officer—the superintendent."

That there is a need for a chief supervisory officer seems obvious. To state specifically what his task shall be and how he may best perform it is difficult, if not impossible, at the present time. No attempt is made in this paper to describe in detail the part that the superintendent should play. Its purposes rather are to set forth his major functions in supervision, to summarize and evaluate current practices in dealing with these, and to discuss certain difficulties that arise in their performance. The major functions here discussed are:

1. To set up the organization for supervision.
2. To allocate the responsibilities and relationships of the supervisors.
3. To direct and coordinate the activities of supervisors.
4. To appraise the results of supervision.

Data on the problem were collected by means of the personal interview and questionnaire techniques. Since the problems of allocating responsibilities and of directing and coordinating activities are especially difficult in the larger city system where several different types of supervisors are employed, the study was limited to cities with populations ranging from 25,000 to 100,000. Only typical practices are presented, and evaluations are based on the col-

lective judgments of the specialists who cooperated in the study. Data are based on current practices as found in 70 cities and upon the judgments of 56 specialists in supervision and administration. Major emphasis was given to the problems of directing and coordinating the activities of supervisors; less attention was given to organization and appraisal functions.³

The Organization of Supervision

One of the most important tasks of a superintendent of schools is to determine what supervision is needed, where it is needed, and the number of supervisors necessary to carry on the program effectively. That this task is one belonging peculiarly to superintendents is shown by the fact that 32 per cent of them determine the program personally and independently. Generally, however, superintendents consult principals, and in some instances, general and special supervisors on these matters. Various plans for instituting a program of supervision are available. For example, one might go about it in an empirical way, proceeding upon the assumption that supervision is needed in certain grades or subjects and then engaging such supervisors as are thought necessary to accomplish the work. Another procedure would consist of observation of the work being done in the classrooms. Thus a superintendent might visit the different teachers and, upon the basis of his own subjective opinion as to the efficiency of the teaching observed, provide such supervision as thought desirable. Still another approach to the problem would be through the use of standardized tests. These tests would be given in the different grades and subjects and a comparison of the scores would roughly reveal whether the different groups were normal in achievement, above the normal, or below. Upon this basis supervision would be provided.

In current practice it was found that empirical methods are used most widely in determining the program for supervision. Seventy-two per cent of the superintendents reported that their own experience is largely the determining factor, and 62 per cent rely somewhat upon classroom observation as their guide. Only a small percentage use objective techniques, a fact indicating that little attention is being given to the scientific appraisal of supervision. As cities increased in size, supervisors were added to the staffs without objective evidence of the need. This situation is but natural since it has been within recent years only that objective techniques have been developed.

In the majority of cities, responsibility for organizing the supervisory staff rests exclusively with the superintendent. In approximately one fourth of the school systems he is assisted by elementary- and high-school principals. The criterion most generally used as a basis for organization is previous experience, although in some instances, consideration is given to the practices of other systems. Nearly 50 per cent reported that the advice of outside experts is sought. In general it is clear that the prevailing practices of superintendents in organizing their staffs are largely of a subjective nature.

The typical supervisory staff in cities of the size included in the study consists of 13 elementary-school principals, 1 senior-high-school principal, 3 junior-high-school principals, 2 gen-

eral supervisors, and at least 3 special supervisors, including those of art, music, and physical education. What the exact size of the staff in any particular city should be cannot of course be stated dogmatically. Scarcely a beginning has been made in scientifically determining the actual needs for supervision, the number of supervisors that should be employed, and the most effective ways of organizing the staff. Such techniques must be forthcoming if supervision is to be raised to the level of a scientific procedure.

Allocation of Responsibilities and Relationships of Supervisory Officers

A study of the practices of superintendents in establishing the responsibilities and relationships of supervisors reveals great diversity. Few systems follow plans that approach uniformity. While in more than 90 per cent of the schools supervisors are directly responsible to the superintendent, they do not hold the same relationships to each other in different cities. A few illustrations will suffice: In some school systems elementary-school principals are completely responsible for the instructional system and results within their building. In others, they share responsibility for instructional results with general and special supervisors, while in still others they are responsible for supervision in regular subjects only. In some systems elementary-school principals direct the work of general and special supervisors, while in others the procedure is reversed, general and special supervisors directing elementary-school principals. Suggestions are made to teachers by supervisors directly in some cases, while in others all suggestions are made through the principals. This lack of uniformity is not confined to the relationships of principals and supervisors, but exists also in the case of relationships of general and special supervisors. For example, in some schools special supervisors work under the direction of general supervisors, while in others they work independently, planning their own work.

The illustrations that have been given serve to show that there is little agreement as to the responsibilities and relationships that should be established among the members of the supervisory staff. Practices vary greatly from city to city. There is little information of an experimental nature to guide a superintendent in the solution of the problem. At present perhaps none can say precisely what sort of relationships should be established among supervisors. Studies have been made of current practices and these practices have been evaluated by means of the collective judgments of experts. Such studies should prove to be of great value. It is obvious, however, that many factors peculiar to each school system, such as the training and experience of supervisors and the size of the staff, will have to be taken into consideration in delegating responsibilities to supervisors and in establishing their relationships.

But whatever decision the superintendent makes as to the general nature of the plan of supervisory relationships, he is confronted by a still more important problem, that of definitely allocating the responsibilities and making known to them their relationships in accordance with this plan. A new supervisor coming into the school system will have many questions arise in her mind as to her relationships to other supervisors. For example, a general supervisor is likely to ask: What are my specific responsi-

¹Ayer, Fred C. and Barr, A. S., *The Organization of Supervision*. Appleton, 1925.

²Strayer, George D., and Englehardt, N. L., *The Classroom Teacher at Work in American Schools*. American, 1920, p. 45.

³For a more intensive discussion of the problems presented in this paper and for tables from which data have been drawn, see Brink, W. G., *Direction and Coordination of Supervision*, Northwestern University Contributions to Education, No. 3, 1930.

bilities? What are my relationships to elementary-school principals? In visiting teachers in any particular building, should my suggestions be made directly to the teacher or should they be made through the principal? Should I report to the principal for instructions upon entering the building, or am I to work independently, planning my own work? Am I to assume the initiative in visiting teachers or should I visit them only when they call for assistance? How are the suggestions which I give to teachers to be coordinated with those given by the principal and perchance by the superintendent? What are my relationships to special supervisors? Am I to direct their work, or are we to work independently of each other? Are there any responsibilities of an administrative character that I must assume? If so, what is the exact nature of these responsibilities? Am I responsible for supervision in regular subjects only, or for special subjects as well? These are only a few of the questions which a general supervisor will raise. Similar ones will be asked by elementary- and high-school principals, and by special supervisors. Satisfactory and definite answers to these questions will clear the atmosphere for supervisory efficiency and prevent many misunderstandings which are otherwise certain to arise.

In current practice it was found that supervisory responsibilities and relationships are not definitely established in many school systems. For example, while but 8 per cent of the superintendents reported that elementary-school principals are completely responsible for the instructional system and results in their own buildings, 24 per cent of the elementary principals reported that they exercised this responsibility. Only 8 per cent of the general supervisors stated that elementary principals direct their work, while 24 per cent of the elementary-school principals checked this item. Apparently elementary-school principals feel that they are responsible for instructional results in more instances than is true according to the statements of other supervisors. Nor are misunderstandings confined to the activities of elementary-school principals and general supervisors. The same situation obtains in the case of special supervisors and principals and general supervisors. For example, although 38 per cent of the elementary-school principals reported that general supervisors work under the direction of the elementary principals, only 17 per cent of the special supervisors stated that this is true in practice. There appears to be some justification for believing that in some instances superintendents delegate responsibilities to supervisors which are not assumed in actual practice. For instance, 42 per cent of the superintendents reported that special supervisors work independently, planning their own work, while 61 per cent of the special supervisors and 58 per cent of the elementary principals stated that this is true in practice. Again, 60 per cent of the superintendents reported that special supervisors inform principals of suggestions made to teachers, while 41 per cent of the special supervisors and 44 per cent of the principals checked this as true in practice.

That the same lack of definiteness which characterizes the allocation of responsibilities of supervisors was also found in the case of the responsibilities of teachers is shown by the following figures. Although 38 per cent of the superintendents and 37 per cent of the elementary-school principals indicated that teachers are responsible to principals only in matters pertaining to instruction, only 7 per cent of the general supervisors and the percentage of special supervisors reported that this is true in practice. A similar situation was found in the case of the officials to whom high-school teachers are responsible in supervision. While in general, teachers in the high schools are more often

responsible to principals than was found in the case of elementary teachers, a similar discrepancy exists between the reports of superintendents and high-school principals and those of general and special supervisors. Such disagreements as have been described imply that in many cases responsibilities and relationships are not definitely made known to supervisors and teachers. They further suggest the possibility of considerable overlapping in supervision as it is at present administered in some school systems.

An effort was made in this study to discover the cause of the misunderstandings which characterize the relationships of various supervisors. Superintendents were asked to answer the question: Do you inform supervisors concerning supervisory relationships? The responses to this question indicated that in 75 per cent of the schools, efforts are being made by superintendents to make known the relationships which he believes should exist. In nearly 25 per cent of the schools, little or no attempt is being made in this direction. All of the specialists in school administration and supervision who cooperated favored informing supervisors concerning relationships.

The methods employed by superintendents in informing supervisors concerning relationships were also investigated. Individual conferences of superintendents and supervisors are used most frequently. This method was reported by 71 per cent of the schools. Group conferences are used by 56, and bulletins and circulars are used in 34 per cent of the schools.

Direction and Coordination of Supervisory Activities

After the organization for supervision has been set up and the responsibilities and relationships have been definitely allocated, the problem of directing and coordinating the activities of each of the several supervisors arises. It is in dealing with this problem that the superintendent's real ability in supervision will be shown. Expert leadership is needed and it is the superintendent who can best provide this leadership. But while this function gives the superintendent a real opportunity, the satisfactory performance of it is by no means simple. It is a task that will require not only a keen understanding and appreciation of the problems of the several supervisors, but also an understanding of the aims and functions of modern education and the most effective means for their accomplishment.

It would hardly seem necessary to emphasize the importance of directing and coordinating the activities of supervisors, and yet in current practice and in the literature of supervision this is a most neglected aspect of the superintendent's work. Supervisors have been added from time to time with little effort to direct and coordinate their activities. In situations of this kind it would seem likely that much overlapping would take place. Consider, for example, the hypothetical case of an elementary-school teacher whose work is supervised by at least three different officials, the superintendent, the elementary-school principal, and the general supervisor. Let us suppose, and the supposition is not at all unwarranted, that each of these officials holds a different philosophy of method. For instance, one of these supervisors might approve of and encourage a compulsion type of teaching, emphasizing strict disciplinary procedures. Another might prefer a motivation type of teaching, and still another might believe in a purposing type with emphasis upon greater freedom, individual initiative, and leadership. Each of these officials visits this teacher and offers suggestions as to methods of teaching. The supervisor who believes in compulsion will offer suggestions in conformity with this type of teaching, while the supervisor who believes in purposing will offer suggestions in accordance

with his views of method. In situations of this kind would it not seem highly probable that much overlapping would result? This would not be so serious if the suggestions were in agreement; however, it is entirely possible that unless there is some method of directing and coordinating the efforts of these supervisors, conflicting suggestions would be made. Such a situation might prove to be more harmful than beneficial for the teacher.

Illustration might also be advanced to show the importance of directing and coordinating the activities of supervisors in such matters pertaining to instruction as the aims of education, course of study, time allotments, and daily programs, and in such supervisory activities as visitation of teachers, rating of teachers, testing, and improving teachers in service. Space will not permit further discussion along this line.

Many problems arise in a consideration of the place and function of the superintendent in this aspect of his work. There is first of all, the question of the amount of direction that he should give different supervisors. Should he direct their work closely by prescribing such things as the course of study and the methods to be used, or should he give them considerable freedom in their work? Should he give all supervisors the same amount of direction or should he direct the work of some closely and give others more freedom? Next there is the question of the techniques that he may employ in the performance of these functions. How is he to direct and coordinate the activities of his supervisors? Little uniformity was found in the current practices of superintendents and in the judgments of specialists in supervision and administration on which conclusive answers to these questions could be based. Wide variations were found not only in the general amount of direction given, but also in the extent of direction given each of the different types of supervisors in relation to specific activities. In the majority of school systems, elementary-school principals receive a greater amount of direction in instructional matters such as aims of education, course of study, methods, and in supervisory activities than any of the other types of supervisors. General supervisors are given nearly the same amount of direction as elementary-school principals, while high-school principals and special supervisors enjoy wide latitude amounting almost to complete freedom in at least 50 per cent of the schools.

Specialists in supervision and administration who cooperated in this study differentiated only to a small extent in the degree of direction which they feel superintendents should give different types of supervisors. They conceive of the function of the superintendent to be largely advisory in nature as far as general instructional matters are concerned. In their opinion supervisors should be given complete freedom in respect to details of such matters as teaching methods, content of course of study, time allotments, and daily programs. The majority of specialists believe that special supervisors should receive more direction in practically all of their activities. More than 50 per cent feel that high-school principals should be given complete freedom in such activities as visitation of teachers, and in holding group and individual conferences with teachers. They further believe that greater emphasis should be placed upon directing different types of supervisors in relation to activities for improving teachers in service.

In the majority of school systems, some attempt is made to coordinate supervisory activities. In more than 60 per cent of the schools, such coordination as takes place is accomplished through conferences of superintendents and supervisors. In some instances, a supervisory council is charged with this responsibility, while in others it is left to the principals.

Ten per cent of the superintendents and 41 per cent of the general and special supervisors reported that there are no specific ways of coördinating the work of supervisors. The discrepancy in the percentages would strengthen the belief that in many schools little effort is being made in this direction. While specialists do not all agree as to the most desirable methods to use in bringing about coördination, they are in agreement that some plan should be put into operation toward that end.

The Appraisal of Supervision

The appraisal of supervision is an important function in any school system. Changes in the organization and administration of supervision and the techniques that are to be employed should be made as far as possible on the basis of exact information. It is a problem that necessitates the coördinated efforts of all members of the supervisory staff. Obviously the superintendent is the one official who can best provide the expert leadership and coördination of efforts needed.

One of the important problems of the superintendent in the performance of this function is the determination of the techniques to be used in the evaluation of supervision. How is the success of the supervisory program to be measured? Courtis⁴ has pointed out the complexity of the problem and has emphasized the fact that "a thorough-going appraisal must trace the effect of differences in philosophy, organization, manner of administration, amount and quality of instruction, effects produced on the teacher, way through to their effects upon the children." He further adds that "supervision may not rightly be said to have been measured until the result is expressed as rate of growth per unit of supervisory effort."

Recently much attention has been given in the current literature of supervision to evaluation techniques. Some of these approach the problem from the standpoint of the achievement of pupils, others stress changes produced in the teacher and in the teaching act, while still others secure the judgments of teachers concerning the value of various activities and devices. Summaries of current techniques may be found in the *Eighth Yearbook of the Department of Superintendence* and in the *Second Yearbook of the National Conference of Supervisors and Directors of Instruction*.

Under the discussion of the organization of supervision it was shown that in current practice little attention is being given to the scientific appraisal of supervision. Empirical methods are used most widely in evaluating supervision, and comparatively few school systems employ objective techniques. It is entirely probable that as these techniques become more and more refined greater use will be made of them.

Some Implications

In this report, four major supervisory functions of city school superintendents were suggested, namely: (1) to set up the organization for supervision; (2) to allocate the responsibilities and relationships of supervisors; (3) to direct and coördinate their activities; (4) to appraise the results of supervision. Current practices of superintendents in cities ranging in population from 25,000 to 100,000 were briefly considered, and some of the present deficiencies and difficulties were mentioned. It was pointed out that empirical methods are used most widely in the determination of the supervisory program, that in many school systems responsibilities and relationships are not definitely established, a condition which results in misunderstandings as to functions, that little attention has as yet been given to the problem of directing and coördinating the activities of the different supervisors, and lastly, that little

DR. RULE BECOMES STATE SUPERINTENDENT FOR PENNSYLVANIA

Dr. James N. Rule, who was recently appointed state superintendent of public instruction for Pennsylvania, to succeed the late John A. H. Keith, was educated at Washington and Jefferson College, from which he was graduated in June, 1898, with the bachelor of science degree.



DR. JAMES N. RULE

Following his graduation, Dr. Rule taught one year in the high school at Washington, Pa. Later he accepted the position of teacher and assistant principal of the Washington and Jefferson Academy, while completing his work for a higher degree from his alma mater. He served seven years in this position, and in 1907 was made principal of the institution.

In 1912, Dr. Rule was appointed to the principalship of the Central High School in Pittsburgh. Here he remained until 1916, when he left to become principal of the Schenley High School.

In 1921, following some years spent in Red Cross work, he entered the department of public instruction as director of science. Two years later, he was promoted to the second deputyship and was placed in charge of secondary education. Under former Superintendent Becht, he was made first deputy and continued in charge of secondary education. In 1925, the state council of education appointed Dr. Rule as its first executive secretary.

In January, 1931, upon the death of former Superintendent Keith, Dr. Rule became acting superintendent, and last May, was named superintendent of the state school system for a term of four years.

Dr. Rule has been active in all the progressive educational movements of the state during the past decade. As a tribute to his contributions to educational advancement, Washington and Jefferson College conferred upon him the degree of doctor of science in 1927. He has been identified with a wide range of educational activities, some of the most important of which are a plan for the financing of the public schools, a study of the distribution of state subsidies to school districts, a study of the relations of secondary and higher education, and chairman of the education congress program committee.

has been done in scientifically evaluating the results of supervision.

It must, of course, be recognized that the superintendent of schools in cities of the size selected in this study has many responsibilities in addition to those of a supervisory nature. That he has more important responsibilities may be doubted. Nevertheless, the matter of securing sufficient time for providing such leadership as is needed constitutes a real problem in itself and is worthy of careful consideration. There is some justification for believing that a solution to this problem may be arrived at in some school system through a change of emphasis in the supervisory activities stressed by superintendents. In another study,⁵ for instance, it was shown that in many school sys-

tems superintendents spend as much as 50 per cent of their time in classroom visitation. It was further found that the purposes which superintendents have for visiting teachers are largely for inspection of pupils' work, for rating of teachers, and for assisting them in such matters as methods of teaching, selection and organization of subject matter, and the adaptation of instruction to individual needs. In the larger school systems where several supervisors are employed, one wonders why it should be necessary for superintendents to engage in practically the same activities as those delegated to supervisors. Would it not seem that the superintendent's responsibility should be confined largely to the general direction and coördination of the activities of his supervisors? This would not imply that he should not remain in close touch with the classroom and the problems of the teaching staff. It would mean rather a change of emphasis in the purposes for which he should engage in direct and personal supervisory activities, and a subsequent change of emphasis in the activities stressed. It is conceivable that superintendents are spending so much time in direct and personal supervisory activities that insufficient time remains for those major functions with which this paper has dealt.

MISSOURI REFORMS ITS SCHOOL LAWS

Recent School Legislation in Missouri

Two years ago the governor of the State of Missouri recommended to the legislature that a commission be appointed to make a survey of the educational, eleemosynary, and penal institutions of the state to determine their needs. He further recommended that an appropriation of \$60,000 be made to carry out this survey. His recommendations were accepted and the commission consisting of eight men of the state was appointed. This commission selected as directors of that part of the survey dealing with education, Dr. George D. Strayer and Dr. N. L. Engelhardt of Teachers College, Columbia University.

As a result of this survey the most significant school legislation that Missouri has ever enacted was put through the last general assembly in April of this year. This legislation, while not all that the schoolmen of the state would have it be, and not all that was recommended by the directors of the survey, is unquestionably a very pronounced forward step as may be seen by referring to some of its important features listed below.

What does this recent legislation include? The following points are listed as the outstanding provisions of Missouri's recent school legislation:

1. It provides for a redistricting board of six members in each county to divide the county into proposed enlarged districts.
2. It stipulates that these proposed districts shall become operative only when they have been approved by the voters of each component district.
3. It provides that the redistricting board shall cease to exist when a plan for enlarged districts has been formulated.
4. It gives to consolidated districts now in existence the privilege of electing to receive aid either under the provisions of the new act or under the provisions of the old law.
5. It requires a minimum school term of eight months.
6. It guarantees to every district in the state, \$750 for each elementary teaching unit and \$1,000 for each high-school teaching unit when that district has levied 20 cents or more on the \$100 assessed valuation.
7. It provides that wealthy districts which do not qualify for equalization aid shall continue to receive teacher and attendance quotas as at present, the latter at the rate of 1.3 cents a day,

(Concluded on Page 126)

⁴Courtis, S. A., "Problems in the Appraisal of Supervision," *Educational Administration and Supervision*, Vol. XV, No. 4, April, 1929, p. 278.

⁵Brink, W. G., "The Superintendent's Participation in Supervision," *Educational Administration and Supervision*, Vol. XVI, No. 6, September, 1930.

Current Conceptions of Research Applied to Public-School Systems

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In this brief article, an attempt will be made to touch upon three points having to do with research in public-school systems. In the first place, an attempt will be made to determine what educational research is by finding out what it is *not*, and by reviewing those conceptions of educational research held by some authorities who have written upon the subject. Secondly, some of the applications of research to public-school systems will be touched upon. Then, finally, the superintendent's responsibility for research in public-school systems will be mentioned.

There are almost as many definitions or conceptions of research as there are writers upon this topic. It appears easier for these writers to define research in negative rather than in positive terms. To depict research negatively, we would agree that it is not drawing attention to new relations among facts already known; it is not deriving the consequences of facts already known; it is not developing a body of theoretical doctrine without reference to facts to be accounted for by it; it is not the mere collection of facts without due regard to their interpretation; it is not an attempt to substantiate a group of assumptions; it is not an effort to establish a set of principles; and it is not the narration of one's philosophy and opinions. But what is research?

Dr. John C. Almack says that the term "research" comes from the French *rechercher*, *re* and *cercer*, modern *chercher*; the act of searching into a matter closely and carefully; inquiry directed to the discovery of truth, and in particular to the trained scientific investigation of the *principles* and *facts* of any subject, based on original and first-hand study of primary sources, or on experiment.

Conceptions of Research

The conceptions of research, as stated by various individuals in a group of miscellaneous publications, display a wide range of emphasis. Some say that research is the application of facts to a set of principles; others hold that it is a trying out of a philosophy or a group of principles or assumptions; a few place the emphasis upon the gathering of facts and the collection of data; a small number of research workers think of research in terms of the treatment or organization of facts; and a few writers unfortunately conceive of research in education as the writing up of a narrative in defense of underlying assumptions. It is to be regretted that a large percentage of students begin their graduate work with the so-called narrative conception of research. For this type of student the writing of a thesis is nothing different in the main from the writing of themes, compositions, and short stories as he did in his undergraduate days. To him the writing of a thesis is merely the expanding of a short story into a longer one.

This conception of research among beginning graduate students became a part of them somewhere down the line in their training. But where they secured it we know not. However, the students cannot be held responsible. The chances are rather high that they developed such concepts from books and articles wherein the narrative phases of thesis writing have been given undue emphasis. No—the mere narration of opinions, thoughts, ideas, and retrospections in essay form is not a thesis. The student should have learned to do this in his undergraduate training.

Again, what is research? What is research in positive terms? Of course, the authorities are not agreed upon the most generally accepted

definition of research. However, in the main, "research is a diligent investigation to ascertain something." This trend of thought runs through the majority of attempts to define research.

What is educational research? To secure valid and conclusive answers to questions relative to the education of children is what the educational research worker attempts to do. When the answer to a question can be had directly from appropriate and accurate objective facts, it is almost certain to be valid, and valid answers are usually reliable. Those answers to questions based wholly upon subjective data are not necessarily wrong. The true research worker in education secures the best data available, be they objective or subjective, and makes such conclusions as his data warrant—and only those which are supported by facts. If, in the process of the research, he makes assumptions and personal observations, secures data that are inaccurate and unreliable, and allows subjective opinion to enter in, he is not negligent of drastic limitations. He takes into account these limitations and makes his conclusions accordingly. However, the mere setting forth of these limitations does not relieve him of the responsibility of exhausting sources of data in order to eliminate many of the restrictions. Therefore, it should be apparent that educational research does not necessarily render valid and conclusive answers to the questions studied, but it does seek the best possible answers.

An Efficient Program of Educational Research

Dr. Carter Alexander has said that research in public-school systems seeks to discover, in the light of the purposes of education commonly accepted, the most efficient procedure in the organization, supervision, financing, and evaluation of the program of educational service. It will be observed from Dr. Alexander's statement that no claim has been made whereby research in school administration will necessarily reduce the cost of education. Of course, there are occasional reductions of expenditures as a result of the institution of research divisions into public schools. However, this is not the general rule.

Instead of the habitual reduction of expenditures, there is in the majority of instances increased efficiency in the public-school systems after the research divisions have been instituted. To be specific, perhaps the research worker in education can tell the superintendent whether homogeneous or heterogeneous grouping of pupils is better; whether the eleven-year public school has advantages over the twelve-year system or vice versa; whether supervision really pays from the standpoint of efficiency of instruction; how children learn the 45 combinations in arithmetic; why a particular set of arithmetics should be adopted; where formal instruction in arithmetic should begin; and at what age it is most profitable for children to begin school.

Such a list of questions could be expanded indefinitely, but perhaps a sufficient number have been given to illustrate a few of the applications of research to public-school systems. No doubt it has been observed that perhaps not even one of the questions stated could be satisfactorily answered by means of objective data alone. Fundamental underlying assumptions are essential. The superintendent, or research worker, should base his investigations upon a broad and far-reaching philosophy of education. It appears that such a comprehensive philosophy of education, based upon a wide educational perspective, should be a fundamental condition

more especially to research in public-school systems than perhaps any other field of education.

Where the superintendent wishes to know the effect of the class sizes upon the results of instruction, or where he desires to measure the achievement of his pupils, resort must be made to statistical treatment. Such questions cannot be answered in the absence of quantitative facts which are objective. However, even with such facts, logical analyses and thought processes are necessary to induce any satisfactory conclusions.

The Superintendent's Responsibility in Research

Then, what is the superintendent's responsibility in educational research? First of all, he should be research-minded. He should maintain a questioning trend of thought. It seems that he ought to know whether the lecture or question-and-answer method is superior in teaching senior-high-school history. He ought not to be satisfied with the solution of a problem, or the answer to a question, which has been based entirely upon his opinion or the opinion of others. To be sure, he would like to know the facts in the case.

Should the superintendent do the research for his school system? Yes; if his school system is small, it will be necessary for him to investigate his own problems and to answer his own questions in coöperation with his school staff. However, there is a point at which the school system becomes sufficiently large to justify a director of research to head up the research division. Even under such conditions the superintendent should be research-minded. His mind should be a fertile workshop prolific with problems to be solved by the research division. He is perhaps the one official who sees the problems of the school system in the large. His philosophy and perspective are sufficiently broad to enable him to direct, in coöperation with the director of research, the course of the research in the main.

Superintendent Jones in an adjoining state is conducting a piece of research in which it is necessary to secure the coöperation of a number of superintendents in order to answer his question satisfactorily. Should Superintendents Smith, Brown, Doe, and others coöperate? Should they furnish the information requested in Superintendent Jones's questionnaire? A number of us call to mind almost immediately the cartoons which appeared in the Research Bulletin of the National Education Association for January, 1930.

Superintendent A: These questionnaires are a nuisance. I have no time to answer them. (We can imagine what becomes of the questionnaires in this office—to the wastepaper can.)

Later Superintendent A: How can I advise my board when there are no facts?

Director of Research: Sorry sir, but you know we never answer questionnaires, and investigators have no other way to get such information.

Superintendent B: Have this questionnaire evaluated, and if it deserves attention, see that the information requested is furnished.

Later Superintendent B: Excellent! This is just the information I need in advising my board.

Director of Research: The facts came from a questionnaire study in which we recently coöperated.

Should superintendents furnish information requested by questionnaires? Yes, if the questionnaires are deserving; No, if they are not.

Summer-school classes in education are usually composed of a large number of superintendents, supervisors, and teachers who are looking for a problem worthy of investigation to entitle them to a master's thesis or a doctor's dissertation. They could hope for no better opportunity than to select a research problem which grows out of their schoolwork in their own school system. They live in their laboratories from day to day in the regular school year, and they have untold opportunities for setting up experimental problems.



Girls and boys in advanced classes find the table and chair convenient for ordinary class work as well as activity programs.

Los Angeles Goes Modern in School Supplies and Equipment

Valerie Watrous

Progressive methods of education are reflected in the equipment of classrooms in Los Angeles even more than they are in the changing of the old-time routine of study. The transition from the slate-and-pencil stage to the tablet and pen still allowed the school desk to dominate the picture, but with the "activity programs," which have been lately introduced, an entirely different type of surface is required.

Visitors to California schools have been quick to observe the changed appearance of elementary rooms where the activity program has been initiated. Educators have been asking for more information on this new type of education, but especially are they concerned with the change in the furnishings of classrooms.

Teachers discovered that if children were to accomplish anything with the materials used in the activity program they must be given freedom of movement. It was soon recognized that greater work-surface space must be offered than that furnished by the small desk such as is used in the first- and second-grade rooms.

In more than 50 per cent of these elementary schoolrooms in Los Angeles this type of desk has been replaced by low tables and chairs, each table being shared by two or three children, depending upon its length and the surface offered.

All of the rooms in new school buildings are being equipped in this fashion, and wherever

the small desks in old structures have become too worn for further repair, low tables are being substituted. In the past four years no first- and second-grade desks have been ordered by the

business department of the Los Angeles city schools, William E. Record, business manager, pointed out in discussing this new trend in education.



Even the very little first graders in the Los Angeles schools have been provided with low tables and sturdy chairs upon which to begin their education.

The table also is encroaching on the higher grade rooms. In classes of journalism and in many handcraft classes in the high schools the table and chair make an ideal equipment. Classrooms in agriculture, in both elementary and secondary schools, also favor the table-and-chair equipment and for the same reason—more freedom for arm movement.

On the playgrounds of the elementary schools and in the gymnasiums, departures from the old order of equipment may be observed. Trees for climbing and poles which are supplied with pegs have recently been adopted by the board of education. This apparatus affords opportunity for an activity that is characteristic of young children. Anyone, whether parent or teacher, who has had experience with little people knows that they love activity and that climbing, whether it be the cherry tree in the backyard or the ridge pole of the garage, is an adventure dear to the heart of every normal boy, and, in these days, a very great many active little girls. It is to give opportunity for the expression of this yearning to climb that the pole and the climbing trees are taking their place as elementary-school equipment.

Publishers also are feeling the influence of a new type of competition. The dun-hued textbook of the last generation is passing on into the mists of oblivion. It is being replaced by books bound in attractive colors and liberally supplied with illustrations of a character that supplement the information conveyed in that particular lesson.

A review of the contents of the Los Angeles school "market basket" reveals that there are bought throughout a school year some 21,000 different items.

Time was when little boys and girls dipped their hands in the same basin of water and gave them a hurried swipe with the classroom towel. The present generation is being schooled in hygiene and sanitation as well as readin', writin', and 'rithmetic. The old tin basin and roller towel long ago vanished and the modern basin and the paper towel took its place. The purchasing department in Los Angeles bought 15 carloads of these towels last year. In this order there were 20,900,000 paper towels. The board of education spent \$43,700 on this one item for the 400,000 children enrolled in the city schools.

The old-time slate and sponge disappeared during the last generation and its passing has helped to swell the rising cost of education. In



While many supplies used in the Los Angeles schools are delivered directly to the buildings, thousands of articles are received in the warehouse for storage and distribution to the 384 schools in the school district, which extends from the sea to the foot of the mountains. Above is a small portion of the annual consignment of paper towels.

lieu of the slate and pencil have come the 300,000 composition books, together with 8,250 gross of pencils used in 1930.

The school children of Los Angeles used more than 15,000 reams of foolscap for the writing. In addition to composition books and reams of foolscap, 126 tons of news print paper were supplied at a cost of \$9,828.

Art, which finds its place in the scheme of public-school education today, also makes inroads upon the taxpayer's pocketbook. The Michelangelos of the future in the public schools of Los Angeles used 212,000 9 by 12 in. manila drawing pads, together with 25,000 boxes of water colors, and 366,000 water color refills. Those who were not dabbling with water colors used 36,000 boxes of crayolas.

The great army of commercial students managed to hammer into tatters 288,000 typewriter ribbons while developing their speed in writing:



The supplies carried in the warehouse vary from pins to flag poles. Above are a few baseball bases supplied to the public playgrounds.



Mimeograph paper comes into the warehouse of the Board of Education each year in 10,000 ream lots.

"Now is the time for all good men to come to the aid of the party," the famous speed sentence involving brown liquor jugs having fallen somewhat into disrepute.

The market basket of the board of education contains a variety of supplies that should interest any manufacturer. Among the recreational equipment bought last year were 1,400 volley balls, 10,300 indoor balls, 5,000 baseball bats and 9,000 playground balls.

Not only the students but the janitors came in for a share of the market basket's contents. During the year 400,000 cakes of laundry soap were purchased for the use of janitors in the schools. These knights of the mop and pail also used 24,000 packages of washing powder, 22,000 cans of cleanser, and 60,000 gallons of floor polish.

In the warehouses of the business department a stock of supplies and equipment representing an investment of \$750,000 is constantly on



Outlines are made in notebooks, and textbooks are studied on the tables that also afford space for map drawing in Los Angeles schoolrooms. Each of these classrooms has its own book shelf and reference corner.

hand, Mr. Record reports. While the detail of this vast purchasing program weaves its way through many departments and is supervised by numerous department heads, it is William E. Record, the man behind the flat-topped desk, beyond the office door marked "Business Manager," who knows exactly what quantities are being bought and from whom and at what price. Mr. Record has a faculty for getting his money's worth. Experience taught him long ago

that the cheapest is by no means the most desirable. Out of this knowledge he has learned to reserve the right to accept not the lowest bid, but the best bid, and that means quality as well as price in buying school supplies.

The failure of a single product, since the board of education buys in such huge quantities, means the loss of that margin of saving which every business manager aims to show from year to year.

One of the difficult problems of administration that presents itself for solution to practically every board of education is that of determining a fair and just policy with reference to the patronage of home industry. Every board of education is interested in the success of its home industries, but every board is also interested in seeing to it that the public money entrusted to them is expended in terms of value received for each dollar disbursed and in seeing to it that every dollar reaches as far as it can. Any board, therefore, needs to do some clear and some straight thinking before defining and launching any policy with reference to this problem and before delegating purchasing power to their authorized purchasing agent.

Patronizing Home Industry

Irving T. Simley, Superintendent City Schools, South St. Paul, Minnesota

Ordinarily, it would be difficult to find in any community a more fair-minded and a more high-minded group of men and women than the men and women that constitute the board of education. Typically, they are busy and successful men and women, but men and women who are interested in boys and girls, and who are willing to give of their time and of their ability to contribute toward the end of the boys' and girls' welfare. To be sure, they are interested also in the general welfare of their community, and of the state and nation for that matter, but their primary concern is to see to it that justice is meted out to the boys and girls. At the same time they are concerned that no injustice be done to anybody else.

Expenditure of School Funds

The discharge of board responsibility places within the power of board members the expenditure of a certain amount — relatively a con-

siderable amount — of public funds. Selected as they are, and motivated as they are, they may be relied upon to make an economical and efficient expenditure of these funds. However, in the expenditure of these funds, problems arise and opportunities present themselves for making mistakes. And mistakes do occur, but when they do, they may in most instances be traced to errors in judgment and not to deliberate manipulation, or to errors brought about through lack of experience or through failure on the part of someone to have supplied them with the necessary pertinent facts.

Though the above statements of fact are generally accepted as true and correct, rare indeed is the school board that from time to time is not subjected to criticism. Everybody owns the schools and accordingly everybody feels he should have some direct say about the schools' administration and control.

The Policy Governing Purchases

A good — if, indeed, not the best — starting point in identifying the principles determining the policy governing purchases is to remember that it is the money of *all* the people that is being spent and not the money of the few. It should therefore be of primary concern to *save money for all the taxpayers of the district rather than to make money for a few*. To be sure, in any contemplated expenditure, room for local competition should be provided, but if the local bidder, or the local supply cannot give as much or more for the dollar as the outsider, *quality, delivery, service, and price* considered, then the contract should go outside.

It must be remembered that almost invariably school furniture and equipment and supplies are specialties and are therefore not distributed through the customary retail channels, but through specialists. Most frequently, too, items are bought in sufficient quantities to warrant

direct wholesale purchases. Local merchants and other taxpayers should recognize these facts, and they will recognize them if the board follows a consistent policy. It is the best way to keep taxes down.

In the purchase of any commodity, a school board, as well as an individual, will recognize, of course, that it is not quantity and quality alone that determine the price that should be paid for the article. *Service* is as much a factor of price as either quantity and quality. Service includes such important considerations as convenience to the purchaser in making purchase, promptness and insurance of delivery, standing back of the article sold, lack of red tape, the integrity and reputation of the vendor, and even his cordiality and accommodation.

Schools, like individuals, have occasional need

for conventional retail staple supplies. Incidental hardware, small quantities of paint, groceries and supplies for the home-economics department, small quantities of lumber, or other repair materials are cases in point. Such needs may well be distributed as equally and fairly as possible among the legitimate local dealers without competitive bidding. Assuming that legitimate competition is regulating and maintaining fair prices, there should be no more need of a school board's wasting time than a busy business man's in "dickering" for prices.

Another item of cost of any article purchased that is often overlooked is the expense involved in red tape unraveled and in time consumed in making a purchase. Too much routine or red tape is expensive. It is easily possible to spend

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A Plan for Distributing Instructional Supplies in Small Schools

W. C. Jackman, Superintendent of Schools, Wakefield, Nebraska

The mere word *supplies* causes many experienced schoolmen to think of something about which the teachers are continually nagging him. But instructional supplies are vital necessities in the education of children.

Not only are supplies important educationally, but they involve considerable financial outlay. It has been found that in smaller school systems of 200 to 500 enrollment, the average expenditures for books and supplies varies from \$2.84 to \$8.90. A more recent study shows that the average expenditure for instructional supplies per pupil in Nebraska schools vary from \$1.77 to \$2.65. This proves beyond question that they should be given greater consideration in school business administration.

Underlying Principles of Management

Authorities on school administration are agreed upon at least five principles of supplies management, which apply to the storage, distribution, and accounting of supplies. These may be summarized:

1. There are two systems of storage in common use; first, a central storeroom system, and second, the use of separate storerooms.
2. Every storeroom should be large enough to carry supplies for one school year. It should be accessible, artificially lighted, equipped with bins and properly labeled shelves, protected from fire and theft, and kept neat and orderly, and in charge of one person.
3. To insure a constant check on supplies, bin tags must be used which show safety margins in the distributing of supplies.
4. To eliminate waste and to save valuable room, the accumulation of old and obsolete material must not be permitted.
5. A properly organized school-accounting system will show immediately the amount of supplies on hand, the amount distributed, and

where distributed. This system should be simple, accurate, flexible, and cumulative. A physical inventory should be taken at the end of each year.

In giving a small-school superintendent assistance in this work it is very necessary to keep in mind that he has little time for administrative duties. Therefore, any plan should require a minimum of clerical labor. It is obvious that his record must be accurate, flexible, and cumulative.

A Practical Plan

A plan which answers these requirements was developed in the Wakefield, Nebraska, schools during 1928-1929. After a successful year with its use the writer gave it a more severe trial under different conditions. Fifteen Nebraska superintendents accepted the plan and worked it through for the ensuing year. The plan is developed about a master form which takes care of the storage, distribution, and accounting of supplies.

On this master form all supplies are listed in column 1; the units of each supply on hand are listed in column 2, with a space allowed for additional purchases; the unit of distribution which is determined in each school is listed in column 3; following column 3 are a series of columns consisting of one column for each teacher; parallel to the teachers' columns is the number of supply units used during the year; the next column carries the value of units used; the next column the units on hand; the following column shows the units needed; the adjacent column is the unit cost; and the last column is the requisition estimate for the following year's supply budget.

The following example proves that the plan is simple, flexible, requires little clerical work, is accurate and shows a continuous inventory:

A teacher comes in with a requisition for instructional supplies. The superintendent's secretary, or whoever is in charge of the supply room, goes to the room and locates these supplies. She places a small tally mark on the master form for each unit checked out. Even though a ream of penmanship paper, one dozen envelopes, one box of wire clips, and a dozen penholders were called for, the entire transaction has been just a matter of taking supplies from the shelves and placing a small mark in each proper column. The record of the entire list of supplies shows the amount on hand, the amount distributed, and where distributed. Nothing complex in bookkeeping was required; it was completed immediately and with a minimum amount of clerical effort, and still gave an accurate record.

If the example were carried further it might be shown that every item of supply can be handled similarly. With the blank it is possible to find the total supply consumption for the entire year, for each teacher, and for each supply item, thus providing a reliable guide for the purchase of instructional supplies the following year.

A year's work with the master form has proved that it works well for the superintendents using it. They have testified that it has given them a reliable, accurate, and continuous inventory, easily kept, and has required a minimum of clerical work.

Very simple directions are needed for use of the master form.

Procedures and Steps in Use of the Supply Record

1. The first necessity is a central storeroom equipped with shelves well lighted and locked.
2. All supplies should be stored systematically and promptly. A supply form should be placed on wall or door for convenient use.
3. The superintendent, his secretary, or some other person selected by the superintendent, should be in charge of storeroom and distribution. There should be definitely appointed times for distribution with allowances for emergencies. All items checked out should be accounted for by small tally marks at the time they are checked out.
4. The supplies should be listed on the form at the beginning of the year and show at any time (a) the total units on hand, (b) the unit of distribution, (c) where distributed, (d) the total amount used, (e) the value of units used, (f) the units remaining in stock, (g) the units returned at the end of the year, (h) the units needed for the next year, (i) the unit cost, and (j) the estimated cost for next year's supply budget.
5. Figures should be compiled at the end of the year showing the units used, the units on hand, the units needed, and the estimated cost of supplies for the coming year. Each annual supply record should be filed for reference.
6. If the superintendent is to secure the cooperation of the teaching force, he must inform them about the plan and give reasons for its adoption.

Name of supply	Bin No.	Units on hand	Dist. Unit	Teacher	teacher	teacher	teacher	teacher	teacher	teacher	teacher	teacher	teacher	No. Units used	Value units used	units on hand	units needed	unit cost	Req. Est.
Brass fasteners	2	21	1 Bx	11	11	11	11	11	11	11	11	11	11	15	1.65	8	7	.11	.77
Chalk	3	7	1 Bx	11	11	11	11	11	11	11	11	11	11	13	14.56	0	13	1.12	14.56
Colored Chalk	3	9	1 Bx	11	11	11	11	11	11	11	11	11	11	6	8.10	3	3	1.35	4.05
Class Record Bk	4	23	1 Bx	11	11	11	11	11	11	11	11	11	11	21	5.25	2	19	.25	4.75
Crayolas	3	144	set of 9	11	11	11	11	11	11	11	11	11	11	108	10.80	36	72	.10	7.20
Alum	2	72	1 Bx	11	11	11	11	11	11	11	11	11	11	15	2.25	15	15	.15	2.25
W't'g Bd.	1	36	sheet	11	11	11	11	11	11	11	11	11	11	93	4.65	15	78	.05	3.90
Paste	2	15	1 Bx	11	11	11	11	11	11	11	11	11	11	14	2.80	1	13	1.50	19.50
Blue Const.	5	15	1 Bx	11	11	11	11	11	11	11	11	11	11	14	3.50	1	13	.25	3.25
Brown Const. Paper	5	15	1 Bx	11	11	11	11	11	11	11	11	11	11	14	4.00	5	11	.25	2.75

MASTER FORM FOR KEEPING TRACK OF SUPPLIES IN A SMALL SCHOOL SYSTEM

The Faith of Our Fathers

What School-Board Members Should Know About Intelligence Testing

Ernest W. Tiegs, Los Angeles, California

Even those who so stressed the idea of equality among men as a basic social principle were aware of differences between men. As in our own day, there were few Washingtons; but there were many average men. And nature had so fashioned some that they must apparently remain hewers of wood and drawers of water; this was their worthy, if different, contribution to their fellows.

The fathers were concerned primarily with social and political equality; they felt its profound significance and visioned its rich potentialities in their world. But they left to posterity the interpretation and application of this doctrine of equality in education.

For over a hundred years this great principle of democracy bore little fruit in school procedure. Each classroom was a miniature autocracy, attempting to train children for future participation in democracy. Few questioned the idea that by taking thought they could add a cubit to their intellectual stature. Children might differ, to be sure, but in faithfulness, application, or in the extent of their resistance to the commands of the teacher—but never in their ability to do schoolwork. As in Biblical times, parents were warned that sparing the rod would spoil the child; thus there developed the era of birch-switch motivation in education. Children were coaxed, badgered, and goaded. Failure was an ever-present ogre threatening to devour the slow. A recent investigation reveals that in many a home even today, a "failure" on a report card still brings severe punishment.

Fortunately for the children of this and other lands, the days of this inquisition appear to be numbered. The accumulation of evidence has gradually established the fact that children do differ in their capacity to do the work of the school. The conviction gradually dawned that the school difficulties which less than a generation ago, robbed so many unprepared children of their educational birthright, and forced them to enter prematurely the ranks of the employed was not due to erring childhood, but to the fact that the school did not fit the differing abilities of children.

Adjustment of Tasks to Abilities of Children

The effort to discover the nature and extent of the abilities and limitations of children, in order that their tasks may be adjusted to their strength, has resulted in the development of *intelligence tests*. The use of intelligence tests makes it possible to provide for children a more adequate quality and quantity of educational training than would otherwise be possible. Through their use, the slow pupil is saved from discouragement and disappointment by placement with those whose capacity for achievement is similar. The intelligence test has been a boon to many failing students; it has vindicated them of the charge of laziness or unwillingness and has pointed out the real cause of their difficulties. Through the use of these tests, teachers may adjust the materials, as well as the manner of presentation, to the needs and abilities of children. In other words, the intelligence test is one instrumentality through which the ideal of equality of opportunity is being realized in education.

It seems strange that such a boon should have been received with indifference by so many laymen and teachers, and should have caused such concern for the welfare of children on the part of others as to gain their enmity. Founded on the work of the Frenchmen, Simon and Binet, who dedicated their energies to the welfare of children, and developed in this country by outstanding and scholarly members of the profes-

sion, it is difficult to understand why intelligence testing has been so violently opposed by a few. It appears to be another case of seeing elephants where only mice exist. In the present case, it is difficult to find even a single mouse. If a contribution like intelligence testing had been made in business, it would immediately have been patented; a large corporation would have been formed, and some of the present critics would have been among the prominent stockholders. But work in education follows a different pattern; contributions are made and freely shared, and the education of all of the children of all of the people proceeds apace.

A patent cause of distress among those unfamiliar with intelligence testing is the failure to recognize that there are different types of intelligence; in other words, all differences are not differences of *degree*; they may be differences of *kind* of intelligence. They see tall men and short men and accept them without attempting to make one kind desirable and the other undesirable; they see large draft horses and small race horses and recognize that each in his own place is valuable even if different. The intelligence test as ordinarily used in the school has as its function the detection of differences in capacity to do the ordinary work of the school; it does not attempt to detect differences in mechanical or social or other types of more specific ability. Where critics err is to interpret a low score on an ordinary intelligence test as lack of ability in all fields. The school does recognize the potential contribution of those who are gifted in the intricacies of machinery and mechanical devices, even though they be limited in the more abstract fields of mathematics or philosophy. It does recognize the fact that students who possess social intelligence, the ability to adjust to or move people to action, may be more valuable than the scholar who knows all things but knows not what to do about it.

The romance of the development of electricity and electrical appliances is an ever fresh wonder to the young student first exposed to it; and even adults find it difficult to lay down the magazine which details the wizardry of the electrical laboratory. The electric light, the radio, the combustion engine, and many other conveniences of daily life are dependent upon this great servant of mankind. Yet, it is a fact that no one knows what electricity is! Experts have never been able to agree upon its exact nature! Those unfamiliar with the measurement of intelligence point out with what they consider devastating finality that intelligence cannot be measured, because we do not know with scientific exactness what it is. But it is no more necessary to know exactly what intelligence is than what constitutes the exact nature of electricity. Those who believe that measurement is impossible until complete agreement has been reached on definitions should consider the electric meter.

Purpose of the Intelligence Test

A prominent judge who had gained an enviable reputation for his fight on crime was invited to address the citizens of a community near by. After attempting to explain in his modest way what accounted for his outstanding success, he paused to answer questions. A wag in the audience asked him to what extent and with what success he used intelligence tests in detecting criminals. He vanquished them with one gesture, remarking that they rarely detected criminals! There are many others who have likewise vanquished intelligence tests because they did not detect Tom Sawyers, potential drunkards, congressmen, generals, or railroad presidents. They find it difficult to remember

that that is not the purpose of the intelligence test; that its purpose is to detect differences in ability to succeed in the ordinary tasks of the school. To condemn intelligence tests on this basis is to condemn the foot rule because, in addition to measuring length, it will not also measure color, taste, smell, light, and sound.

Among the sincere but groundless misgivings expressed concerning the possible ill effects of intelligence testing, none is more amusing than the fear that through the use of these tests children will become standardized. This fear has been greatly overworked in discussions of modern education generally, especially on the part of those afflicted with a tendency to oral emotion. There is no such thing as standardizing children; no two of them are alike, nor can they be made alike. It is perfectly clear that weighing them makes them neither heavier nor lighter, nor identical in weight; that measuring their height does not make them taller or shorter, and consequently does not standardize stature. Yet, measuring their intelligence is supposed in some mysterious manner to standardize them. Our amazement is the greater when we remember that the primary criticism of our critics is frequently that children are alike, and that intelligence tests only appear to reveal differences that do not exist. Intelligence tests reveal information *about* children; they do not *change* children. The information thus obtained is used in standardization, not of children, but of educational procedures, which are best suited to training children of differing abilities.

It is highly desirable that there should be some standardization or refinement of method; that there should be some assurance that an effective method does exist and that teachers can be trained to use it effectively. Intelligence tests, themselves, must be standardized or refined and improved, in order that they may become reliable and thus yield consistent and valuable information for use in the education of the pupil. To rejoice in the fact that an occasional pupil "refuses to be standardized" and offers unexpected answers to the questions of intelligence tests recalls the story of the similarly original parachute that would not be standardized and refused to open. Unlike the pupil, however, who can be retested, the parachute jumper could not go back and claim a new one because the first was a failure. Originality is a virtue only when it is significant. And just as there is much meaningless originality and innovation in art, music, or teaching, so does the originality of certain pupils expressed in their answers in intelligence tests reveal that they may be different without being intelligent.

The intelligence test is not a mysterious or dangerous instrument. The I.Q. which it yields is after all a familiar concept. The forester in charge of a station in one of our national parks told the writer that a certain type of tree should be about 12 ft. in height at the end of 5 years. However, he discovered one that was only 9 ft. in height. This was but three fourths, or 75 per cent, of the normal rate of growth. We may think of this tree as having a growing quotient (G.Q.) of 75. He found another 5-year-old tree that was almost 16 ft. in height; this tree, consequently, was growing at the rate of 16/12 or 133 per cent, of the normal rate of growth. We may think of this tree as having a growing quotient of approximately 133.

Determining the Mental Ability of Pupils

The same general principle may be applied to the rate of growth of mental ability in children. Through a long period of experimentation, students of measurement have discovered the

number, and type, of questions or tasks to which the normal child of each age can successfully respond. If a child who is 8 years old chronologically can do the tasks which are normal for a 10-year-old child, he is developing at a rate which is $10/8$, or 125 per cent, of the normal. His intelligent quotient, or I.Q., therefore, is 125. If, however, he can do only the tasks, or answer the questions, normal for a 7-year-old, he is developing at a rate which is seven eighths of the normal and has an I.Q. of approximately 87.

The student does not spend hours each week or each month on this type of exercise as has sometimes been charged; three to five hours in the course of twelve years is all that is necessary for most pupils. Results indicate that I.Q.'s once obtained are relatively constant; consequently, tests are usually given at the beginning of school experience, near the time for entrance into the junior high school, and again just before entrance to higher education. And children are not worried about them; they are not particularly different from their regular daily tasks. On the contrary, certain phases of intelligence tests such as picture puzzles are greatly enjoyed by children.

One of the startling charges that has been made against the results of intelligence tests is that those who have high I.Q.'s are usually failures in the world of practical things after graduation from school. If this were true, it would still be of utmost importance to detect these failures in order that training for others might be more adequate. Generally speaking, however, those with high I.Q.'s can do the most difficult tasks; and the results of the Army mental tests indicate a constant increase in average I.Q. from unskilled day laborers through skilled workers, clerical and mechanical workers, those in the arts, and the members of the professions.

The high I.Q. indicates ability; it does not guarantee achievement. It reveals that an individual has the ability to do certain things; but it does not prove that he has the determination, the will power, or the opportunity to capitalize his best capacity. Circumstances may force him into some other line where he has little or no capacity and thus account for his inability to adjust. An outstanding student may fail in later life because circumstances have forced him into the wrong field.

Value of the Intelligence Quotient

So far as the schools themselves are concerned, there is no serious question about the value of the intelligence quotient. For example, those with I.Q.'s below 75 or 80 will in general have difficulty with the work of the average school; those with I.Q.'s above 90 should have no difficulty in finishing the work of the ordinary elementary school; and those with I.Q.'s above 120 should have no particular difficulty in the university. But a pupil with a high I.Q. may not work up to his capacity, while a child of inferior ability may possess qualities of determination and habits of work which go far to compensate him for what nature has withheld. The intelligence test is not an instrument for amateurs any more than is the telescope of the astronomer; its usefulness is dependent upon the expertness of the operator.

There have been teachers, as well as employers, however, who believed in their ability to estimate intelligence from appearance. It is for this reason that some have insisted that intelligence tests are unnecessary. Experimental evidence available appears to indicate that this is not the case and that teachers need something more accurate than opinions and judgments about intelligence. Perhaps the most complete study of judging intelligence is that of Remmers and Laird. They obtained the judgments of almost 400 judges. They used groups of photographs two to ten in number; old judges and young ones; highly intelligent and less intelli-

gent judges. They varied the experiment in almost every conceivable manner in order to avoid all error as far as possible. Their results were briefly as follows:

1. Ten photographs could be arranged according to intelligence as well with eyes closed as after a careful study of each photograph.
2. Those who did one set well did others badly.
3. Women did no better than men.
4. Old people did no better than those who were young.
5. The more intelligent judges did no better than the less intelligent.
6. Women's photographs were slightly overestimated.
7. Discrepancies were somewhat less if photographs were uniform.
8. Errors were just as great in judging two photographs as ten.
9. Increasing the number of judges working together did not improve judgments.
10. Professional character readers did no better than the average of 376 other persons.

One of the evidences of the fact that a profession exists is the development of measurement to replace opinion, estimate, or unaided judgment. Before measurements were developed in engineering, ancient tunnel builders "wandered around inside the hills" until, after much digging and somewhat by chance, they came out on the other side. Because of the absence of measurement, the ancients believed that the world was flat, and people were held in bondage to numerous superstitions for centuries. Aristotle, one of the world's wisest men, thought that the purpose of the brain was to cool the blood stream. The four blind men described four different elephants; and witnesses in courts proverbially give entirely different accounts of the same occurrence.

Increasingly accurate knowledge of materials and methods has not only influenced, but determined, progress since the beginning of time. It is difficult to imagine what our present plight would be without such common measurements as the foot, the pound, and the quart. Yet, at one time, there were no such measurements as the foot; people simply guessed or estimated, or had opinions. Someone discovered that objects separated in space could be compared in length by means of crooked sticks. This procedure ranks among the world's greatest discoveries. A wise king, seeing the desirability of more accurate measurement, had a cast of his foot made and sent throughout his kingdom, and ordered that it be the official unit of linear measurement.

But this measurement instrument was crude. As people advanced in their ability to think and analyze, they realized that improvement was necessary and desirable. The foot was divided into inches, quarter inches, sixteenths, and smaller. The discovery was made that measurement could be done just as well with a straight, flat stick as with the crude shape of the foot; and that was a great advance. Finally, the concept which presumably began life as a crooked stick in the hands of a half-clad savage now finds one expression in the micrometer caliper, which measures in thousandths of an inch. In the same manner, the engineer, the scientist, the physician and surgeon, and the teacher are making life immeasurably richer and more significant through the development and wise use of measurement techniques.

The schools are periodically under criticism for a variety of reasons. From some standpoints, this is a desirable thing, since it keeps the profession alert and working. But sometimes critics fall into their own traps. When Horace Mann became secretary of the Massachusetts board of education, he was most critical of the work of the Boston schools. He pointed out especially the poor work in writing. At about the same time he received an invitation from a citizen's committee in Chicago to address them on the subject of education. He wrote in his own hand a reply to the invitation and shortly after received from Chicago a message somewhat as follows: "We were glad to get note of acceptance. Your fee of sixty dollars is satisfactory. As you suggest, we may be able to get you other engagements in the vicinity." Imagine his surprise, since he had written them in his own hand that he was getting old, in fact, had passed his sixtieth birthday, and would have to decline their kind invitation.

Evidence of many kinds indicates that the teachers of this nation have been a high-minded, intelligent, and self-sacrificing group of social servants; that they are developing the ideals of democracy and constitute the nation's most stable social insurance. The results of the now famous Springfield tests show that so effective is their training that modern seventh graders compare favorably in achievement with the highly selected ninth graders of a century ago. Intelligence testing enables the teacher to better adjust her work to the needs and capacities of her pupils, and thus steadily approach the goal of equality of educational opportunity among children of differing capacity. Only in this way can the schools make their greatest contribution to democracy.



A WELL-EQUIPPED CAFETERIA
The cafeteria at the West High School, Madison, Wisconsin, has been equipped for the highest possible efficiency in everyday use. As the school grows, it is planned to install additional tables and chairs. The room is also used for various student activities.

Some Essentials of Radio and Public-Address Equipment for Schools

Earl Y. Poore, Director, Bureau of Radio Educational Research, Chicago, Formerly Superintendent of Schools, Shelby, Michigan

Present-day educational processes involve the use of an amazing number of "tools of learning." Some are integral parts of the school building itself, but are no less a contributing factor in ultimate educational outcomes than are those others which are movable.

I wonder how many readers of THE SCHOOL BOARD JOURNAL could at this moment make an accurate guess at the number of classifications, both fixed and movable, which are listed in the "Directory of Equipment and Supplies." The 40th anniversary number (March, 1931) lists more than 230 classes of articles which are advertised more or less regularly in the pages of this magazine. A few of the titles in the list are duplications or cross-entries of other similar titles, but there are more than 200 independent products represented in these classifications.

Every item listed bears directly or indirectly upon the educative process, and hence may be called a "tool of learning." Most of them have a history of gradual evolution toward their present form.

Consider these items:

- Air-Conditioning Equipment
- Auditorium Seating
- Blackboard Cleaners
- Bulletin Boards
- Chairs
- Chalks
- Domestic-Science Equipment
- Drinking Fountains
- Erasers

I have used only five letters of the alphabet, so it is easy to see how a long list could be compiled of "tools of learning" which, like those named above, have undergone radical changes in the process of development that has taken place since these articles first came into use. One has only to read two discussions in this anniversary number, namely, "Schoolroom Ventilation of the Last Forty Years" and "Forty Years of School Seating," to realize that our "tools of learning" are being constantly improved.

Of course, many present-day educational tools have come into use for the first time during this 40-year period. It has been a period of tremendous scientific advancement, with consequent additions to educational equipment. The 25th Anniversary number of THE SCHOOL BOARD JOURNAL knew nothing of several items listed in the issue that celebrated its 40th birthday. This is, of course, a gratifying condition, and the educational world very properly hails each newly offered "tool of learning" as a potential agency for greater efficiency in the educative process.

The one deplorable feature of new "tools of learning" is simply that the mere existence of the new thing begets a condition of hysteria among school people, who too often attempt the use of the new tool before making a careful study of its essential requirements, both pedagogic and technical. One who has sought to conduct an extensive research in the field of radio education cannot avoid the conclusion that this deplorable feature has characterized the introduction of the radio and public-address system into the schools of America.

Radio Makes Its Bow

The collective inventions that made radio possible are amazing. It is doubtful whether even the airplane had such an effect upon the public mind. The mere idea of radio constituted such an advance in the science of communication, that "radio" became a magic word. Every me-

chanically minded boy became a radio experimenter; every family either bought one of the crude receiving sets or dreamed of the day when the purchase could be made.

Naturally the educational world looked for a means of making this wonderful thing a "tool of learning." Colleges and universities built broadcasting stations of their own or arranged for time with commercial stations near by. Various and sundry "schools of the air" sprang into being, some to die an early death and others to build a substantial foundation for future development. In large cities, and, to a somewhat lesser degree, in smaller communities as well, it became the popular thing for the parent-teacher association to present a radio to the school. Usually, there was somebody in the organization who could arrange to obtain a discount through his connections with the local radio dealer, so, of course, the ordinary home-type radio was purchased and given to the school with appropriate ceremonies. Inevitably the next step was to visualize this radio set serving several rooms in the school, and so the radio dealer or one of the science teachers was commissioned to run wires to a number of the classrooms and attach reproducers. Then it became known that a microphone could be used by the principal for speaking to the pupils directly from his desk and that a phonograph turntable and pickup could likewise be attached. Thus we have the popular notion of a "radio and public-address system." Simply a radio set, microphone, and phonograph—all attached to a single power amplifier from which wires are run to the various rooms.

Now, let it be clearly understood that I do not deny the necessity for the "growing-pain" period of radio and public-address equipment in schools. Progress must be gradual. Experiment precedes accomplishment. The first schools served with a system for the distribution of sound necessarily had to use crude equipment. The point that I hope to establish is that *this condition no longer prevails*. Careful studies have been made in an effort to determine what features should be included in an adequate system of radio and public address for schools, and these features, both pedagogic and technical, should be carefully considered before a system is purchased and installed. It is my purpose in the following paragraphs to present these fundamental essentials as I view them from the standpoint of school executive and investigator.

Multiple Receivers

1. A school should have at least two channels of radio reception and distribution in the building. This means two receiving units, each with its appropriate power amplifier. A goodly number of reasons could be assigned for installing more than one radio channel, but two or three examples of conflicting broadcasts will suffice.

The Chicago schools have developed an elaborate program of radio lessons involving two daily broadcasts, which are used by about 800 schools in a dozen states, as well as by this city. One of the Chicago broadcasts extends from 9:55 to 10:15 a.m. The Damrosch music program is broadcast from 10 to 11 a.m. central standard time, on Friday. The Chicago radio lessons for Friday are in history and art, each using two of the four weeks of the month. Thus, a school using the Chicago lessons and having only one receiving set must choose between the history or art lesson and the lesson in music. But if two channels of radio are provided, both

programs can be received and given to the appropriate groups of pupils.

Again, the American School of the Air broadcasts its lessons from 1:30 to 2 p.m. The lessons from the Ohio School of the Air are broadcast from 1 to 2 p.m. Both programs are given daily, and many schools in the Central States desire to make use of both. This is possible only if two channels of reception and distribution are available.

To cite one further example of conflict: There are frequent occasions when the broadcasting of special events of local or national importance occur simultaneously with a regularly scheduled radio lesson. Only if two radio channels are at the command of the school executive, can advantage be taken of both broadcasts for the appropriate grades or classes of pupils. Furthermore, if one may be guided by present indications of expansion of interest and activity in the development of educational radio lessons, both in this country and abroad, a multiplicity of instructional material available on the air will soon necessitate equipment adequate to care for the reception of at least two simultaneous programs in every school of considerable size.

Independent Public-Address Channel

2. The channel for the distribution of the voice and phonograph records throughout the building, should be independent of the radio channels. This means that a power pack used for radio distribution cannot be thrown into the voice channel, but that the latter must have its own independent amplifier. The absence of this proper arrangement has brought distress to many a school executive. Early installations commonly provided one power amplifier, which could be used for the radio program and which, by manipulation of a switch, could be thrown into connection with the microphone. It is obvious that with such an arrangement, only one type of service is possible at any one time. Thus, in the midst of a radio lesson, the school executive discovers an urgent necessity to make an announcement to certain rooms, but realizes at once that this can be accomplished only by discontinuing the radio reception during the time consumed by his announcement. On the other hand, when an independent voice channel is an integral part of the equipment, a radio program to one group of rooms may go on undisturbed while the principal or other person speaks directly through the microphone to any selected combination of other rooms. It may be argued that, if two channels for radio are provided, an arrangement could be perfected for throwing the microphone into the radio channel not in use at the moment. Disregarding those times when both radio circuits are in operation, the independent voice channel is still indispensable in order to make certain that announcements reach the rooms regardless of the condition of the classroom radio-control unit, as it will become clear later.

My investigations and those of several other research workers have led to the conclusion that school people who have made use of the radio and public-address system for a time sufficient to constitute a real test, are virtually unanimous that the use of the microphone for announcements and bulletins is a feature of great value. They testify to the constantly increasing utility of the voice channel for administrative and supervisory purposes. It is not difficult, then, to realize the desirability of a voice channel available regardless of radio lessons.

Classroom Control

3. The individual classroom teacher should have at her command a selective control unit which permits her to switch from one to another of the radio channels provided by the school. When two or more channels are in use, it will occur that sometimes one and sometimes another channel will carry the program appropriate to that room. Of course, any radio lesson will be governed by a schedule formulated by the principal, but experience has proved the convenience of using any of the available channels and of enabling the teacher to have the several channels at her command.

This selector unit requires a compensating "volume control," by which the classroom teacher can determine the minimum intensity for her room at any moment. The maximum volume available will, of course, be governed by the person operating the receiving equipment, and will be so fixed as to be adequate for the most difficult room.

Replaceable Tuning Device

4. The tuning devices of the radio, technically referred to as the pick-ups, should be so incorporated into the system that they are subject to quick and easy replacement. The importance of this is understood when one reflects that not many months ago the development of the screen-grid tube virtually revolutionized the radio industry. Yet the pick-up was the only part of a radio set affected by this invention. The other parts of a school radio system seem to be fairly well perfected and perhaps subject to relatively little radical improvement; but the radio pick-up is in a state of almost constant development. The result is that manufacturers should so install the central receiving equipment that advantage can be taken of new developments as introduced. It is desirable to know that improvements in the tuning device are made at very small expense. School authorities should make sure that this condition obtains in whatever system they purchase.

Automatic Balance

5. Every school radio and address system should be automatically balanced. This involves technical features which school people should understand if they hope to enjoy the operation of a foolproof system. In the first place, a balance must be built into the system in such a manner that, when any classroom teacher is turning the radio on or off in her room, no change in receptivity is apparent in any other room. Also, when one room is shifting from one channel to another, no change should be felt in any other room, nor should the use of the classroom volume control alter the load on the line. Again, when the principal or other person operating the master switchboard, throws any room or combination of rooms into or out of connection with any type of service, the rooms not involved, should not be able to notice any change in reception.

These features of automatic balance are possible if the technical items of equipment essential to such balance are built into the system. Many schools today are finding that whenever a room is cut in or out of the circuit, the volume and quality in other rooms are affected. The result is disturbing to the listening pupils. Such a condition is unnecessary and is an item of importance from the pedagogic viewpoint. It should be clearly understood that unless automatic balance is built into the system, the quality of reception is subject to being spoiled by manipulations of the control units, either in the classrooms or on the central switchboard.

Master Switchboard

6. This matter of automatic balance leads logically to another element of control; namely, the importance of a master switchboard in the office of the principal, giving to that officer command of the system. There should be a selective

switch for each room. By means of this switchboard, the principal should be able to send radio, voice, or phonograph music to any room or combination of rooms, or to deny to any room service from the system. All this he should be able to do without leaving his office. Bear in mind that the master switchboard should not only give him this complete supervision of the system, but should be so constructed that no matter what changes he makes on the switchboard, the volume and quality of reception will remain unchanged and can only be affected when he changes the master volume-control knob or button.

Again, a properly built switchboard will enable him to make an announcement to any room regardless of the manipulation of the control units in that room. Perhaps a teacher has turned off the radio. Perhaps her room is listening to a radio lesson. Or, perhaps, she has simply turned the volume control back to zero, thus ending the last radio program received. But, the principal's voice will reach the pupils in that room at exactly the volume and modulation which he desires, and regardless of the condition of the room control unit, if the principal's switchboard is properly built.

Cabinet

7. The central receiving and amplifying equipment should be inclosed in a cabinet. This cabinet may be an integral part of the building or may be built simply as an article of furniture. On no account should the condition now prevailing in some schools be permitted, where a so-called "panel" of power equipment stands in an open office space, subject to accumulation of dust and to injury from the jostling of passers-by. Equipment for the distribution of sound has necessarily many delicate parts, which should be protected. Of course, the cabinet will be so built as to allow convenient access for adjustment and repair, and for the addition of extra channels. The only parts of the receiving and amplifying equipment that should be visible to the casual observer are the knobs and indicating instruments essential to tuning.

Multiple Reproducers

8. The reproducers in classrooms and auditoriums should be so positioned and of such number as to equalize the desirability of all seats in the room. Educators know that the teacher who desires the greatest degree of concentrated attention to what she has to say, will gather a group of pupils as closely as practicable about her and speak to them in a well-modulated voice of low intensity. The effectiveness of a teacher's words is materially decreased when she must address an entire group of 50 or more pupils. There is no escape from the conclusion that the front-seat child hears too loud a voice if the back-seat child is permitted to hear distinctly. Often this is necessary, however, and there is apparently no practical cure for it so far as the teacher is concerned. But when a voice is sent to a large roomful of children over the radio and public-address system, the necessity of using a loud tone is removed, as is also the advantage of one seat over another by multiplying the number of reproducers in a room sufficiently to place one of them reasonably close to every child. Listening effort is thus reduced to a minimum. Then only, is one seat made as desirable as another, and the radio teacher may use an intimate, conversational tone for reaching all pupils with equal effectiveness.

Proper Baffling

9. It is essential that the reproducers used in school radio and public-address systems should be properly baffled. The virtue of a baffle is not always appreciated, but is readily apparent when two identical reproducers, one baffled and the other unbaffled, are compared. The principle of the baffle is simple. The type of repro-

ducer used in ordinary radio sets and in school installations as well, projects an equal volume of sound to front and rear of itself. This sound proceeds in waves, which, if allowed to meet and mix too close to the vibrating unit of the reproducer, are distorted in such manner as to lose some of the essential quality of the tone. Hence, radio engineers seek so to position the reproducer that its front and rear vibrations are kept separated until they have traveled at least 18 or 20 inches. In the ordinary home radio set, the framework of the cabinet accomplishes this separation. A similar result in the case of a schoolroom reproducer can be obtained only if the reproducer is housed in a cabinet of relative size or is baffled in some other manner. According to some radio engineers, most effective positioning of school reproducers is to recess them in the walls and cover them with appropriate decorative grilles. Thus the wall becomes the baffle. This arrangement also removes the danger of injury from vandalism.

Distribution

10. The problem of distributing radio and public-address units in a school building in an effective manner is by no means simple. There are several factors contributing to this difficulty. The home-type radio set contains one reproducer which is in use whenever the set is turned on. The load on the power pack is constant. But, in a school no such condition prevails. In the school there is a receiving unit and power amplifier that may at one moment be feeding the reproducers in only one room of the building, while at the next moment the entire building may be thrown into the circuit. Or, perhaps a dozen rooms have been listening to a radio program, at the completion of which the principal desires to use his office microphone for speaking, not only to those 12 rooms, but to ten others as well.

The problem involved in these changes is one of including adequate distribution facilities as integral parts of the system. The devices that make these changes possible without destruction of volume and quality levels, must be built into the system. It is essential that school officials look upon a radio and public-address system as a "custom-built job." In the truest sense, its analogy with the intercommunicating telephone system is complete. A school purchasing a telephone system to serve a number of rooms in the building does not seek to buy separate items and assemble them for use. The problems of distribution and control are too intricate. In the light of ultimate efficiency, the same condition prevails with regard to the radio and public-address system. The distribution problem in any school should be presented for solution to the manufacturer whose engineers have perfected equipment to make a solution possible and who is in position to incorporate it into the system.

To recapitulate, the school contemplating a centralized radio and selective call system will do well to obtain such a system as will include the following: (1) at least two channels of radio, with (2) a separate independent channel for voice and phonograph projection; (3) auxiliary room control for the classroom teacher; (4) replaceable radio tuning apparatus; (5) automatic balance which maintains a constant level of volume, regardless of the number of rooms using the system; (6) a master switchboard that places control in the hands of the school executive; (7) central receiving and amplifying units housed in a cabinet; (8) equal distribution of sound through multiple reproducers in larger rooms, (9) adequate baffling of all reproducers, preferably in the walls or ceiling; and (10) effective distribution throughout the building without loss of quality or shifting of volume level.

School officials will find the reliable manufacturers of radio and public-address equipment

(Concluded on Page 133)



WILSON SCHOOL, JANESVILLE, WISCONSIN
Law, Law and Potter, Architects, Madison, Wisconsin

A Community Park and School

Public parks and playgrounds frequently provide opportunities for locating school buildings in a most advantageous way. The green trees and lawns of a park afford a setting for any school, that will enhance its architectural design; and the proximity of play and athletic fields invariably prove to be an advantage for both the school and the public generally.

The new Wilson School, at Janesville, Wis., is located at the edge of a public park which is ideally located in a bend of the Rock River, a nonnavigable stream that is well suited for summer and winter sports. The park is in the process of development for play and athletic purposes, and contains areas which are especially adapted for football and baseball. It is believed that the development of the land for public park and recreation purposes, as it is being carried on, is more economical and will serve larger community purposes than could be realized by more limited development as a strictly school playground and athletic field. School use is inevitably limited to a few hours each day and to comparatively brief seasons—a situation which does not warrant the large investment necessary for an adequate arrangement.

The architects of the Wilson School, Messrs. Law, Law & Potter, of Madison, were enabled to develop the plans of the building on the basis of a complete educational program provided by the school authorities. The school serves a fairly stable and fully developed territory so that no enlargements needed to be arranged for. The program is in skeleton form as follows:

The Educational Program

Grades included in this school: Kindergarten and grades 1-7, inclusive.

Estimated Total Capacity, exclusive of kindergarten—525.

Size of Class, exclusive of kindergarten—35.

Length of School Day—From 9:00 a.m. to 11:45

a.m.—2 hours, 30 min. From 1:15 p.m. to 3:45 p.m.
—2 hours, 15 min.

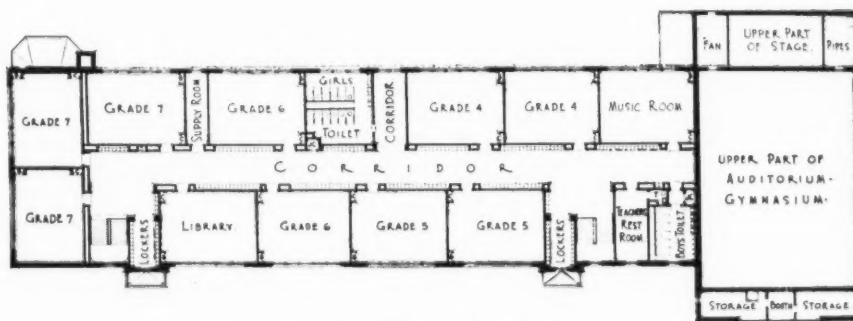
Lunch Period: 11:45 a.m. to 12:30 p.m.

Total Number Hours and Minutes in school day,

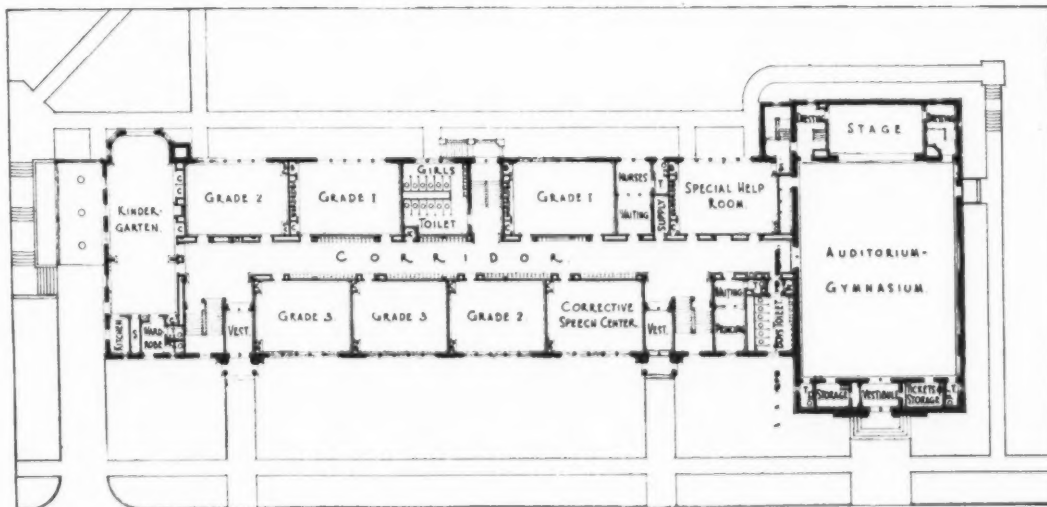
exclusive of lunch period—4 hours, 45 minutes.

Number of Minutes in period—20 min. to 45 min.

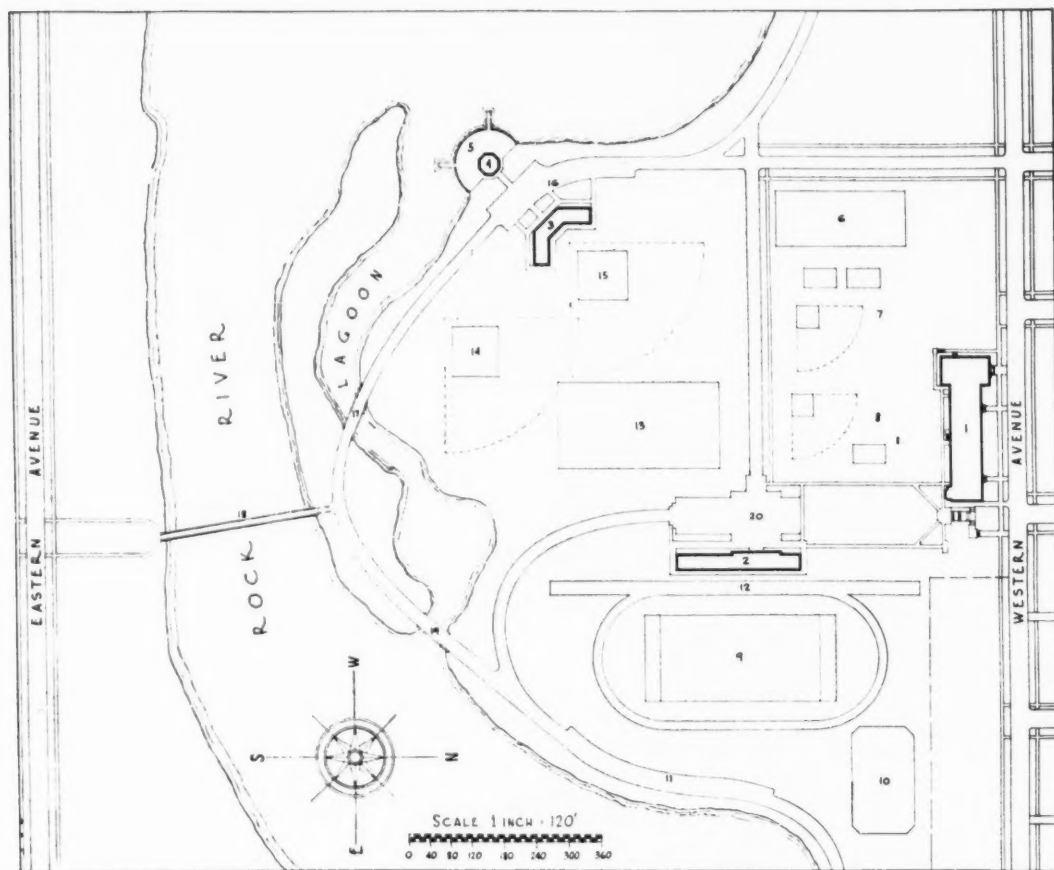
Number of Periods in school day—12 in primary to 7 in seventh grade.



SECOND FLOOR PLAN



FIRST FLOOR PLAN, WILSON SCHOOL, JANESVILLE, WISCONSIN
Law, Law and Potter, Architects, Madison, Wisconsin



PLOT PLAN, WILSON SCHOOL, JANESVILLE, WISCONSIN
Law, Law and Potter, Architects, Madison, Wisconsin

Schedule of Grounds

- | | | | |
|----------------------------|----------------------|-----------------------------------|------------------|
| 1. School | 6. Tennis courts | 11. Parking area | 16. Parking area |
| 2. Stadium and field house | 7. Boys' playground | 12. One-fourth mile running track | 17. Bridge |
| 3. Grand stand | 8. Girls' playground | 13. Practice football field | 18. Footbridge |
| 4. Refreshment stand | 9. High-school field | 14. Practice baseball | 19. Bridge |
| 5. Boat dock | 10. Tennis courts | 15. Baseball diamond | 20. Parking area |

Educational Program of Wilson School for One Week

- Kindergarten** Daily a.m. session—35 pupils.
Daily p.m. session—30–40 pupils.
- Grade 1 (2 rooms)** Daily a.m. and p.m. sessions—35 pupils.
- Grade 2 (2 rooms)** Daily a.m. and p.m. sessions—33 pupils.
- Grade 3 (2 rooms)** Daily a.m. and p.m. sessions—34 and 35 pupils.
- Corrective Speech Center** Room used three times per week by special teacher in speech correction.
- School Nurses' Room** School nurse makes regular bi-weekly call, and special visits.
- Special Help Room** Principal of building uses this room one third of each day for tutorial work with individuals or small groups who need special help.
- Auditorium-Gymnasium** Used three days for gymnasium classes under direction of special physical-education teacher. Used two days by classroom teachers for special programs. Used for community purposes evenings.
- Grade 4 (2 rooms)** Daily a.m. and p.m. sessions—33–35 pupils.
- Grade 5 (2 rooms)** Daily a.m. and p.m. sessions—34–37 pupils.
- Grade 6 (2 rooms)** Daily a.m. and p.m. sessions—35–38 pupils.
- Grade 7 (3 rooms)** One of several seventh-grade centers. Three teachers. Enrollment 85. Departmental teaching. School library being developed. Full-time librarian employed.
- Library** School library being developed. Full-time librarian employed.
- Music Room** Used two days per week by special teacher of music with all grades. Other days used by regular room teachers for music instruction. Equipped for chorus, instrumental, and appreciation work.
- Activities Room** Used three days per week by special creative-activities teacher with seventh grades. Two days for other grades. End of room is used daily for lunchroom.

The Building

The building was put under construction in April, 1929, and was occupied in September,

1930. The site slopes to the rear so that the basement is above the grade at the back of the building. The basement is excavated for a total of 38 per cent of the first-floor area and contains a large activities room, and space for the boilers and heating apparatus. The construction is B type, with brick walls and concrete bearing floors.

The first floor contains six classrooms, a room for corrective instruction, a room for tutorial instruction, a kindergarten, an office suite, a health-inspection room, toilets, and a gymnasium-auditorium.

The second floor contains ten classrooms, a teachers' restroom, toilets, and a library which is the size of a classroom.

The corridors on both floors are 10 ft. wide

and are lined with lockers which entirely replace the ordinary wardrobes.

The gymnasium-auditorium which has separate entrances and can be used independently of the balance of the building, measures 50 by 66 ft., and has a ceiling height of 25½ ft. The stage is adequate for school and community entertainments.

The building cost \$200,683, and \$7,500 was expended for movable equipment. On the basis of cubage, the cost was 26.38 cents per foot.

The Consolidated School at Its Best

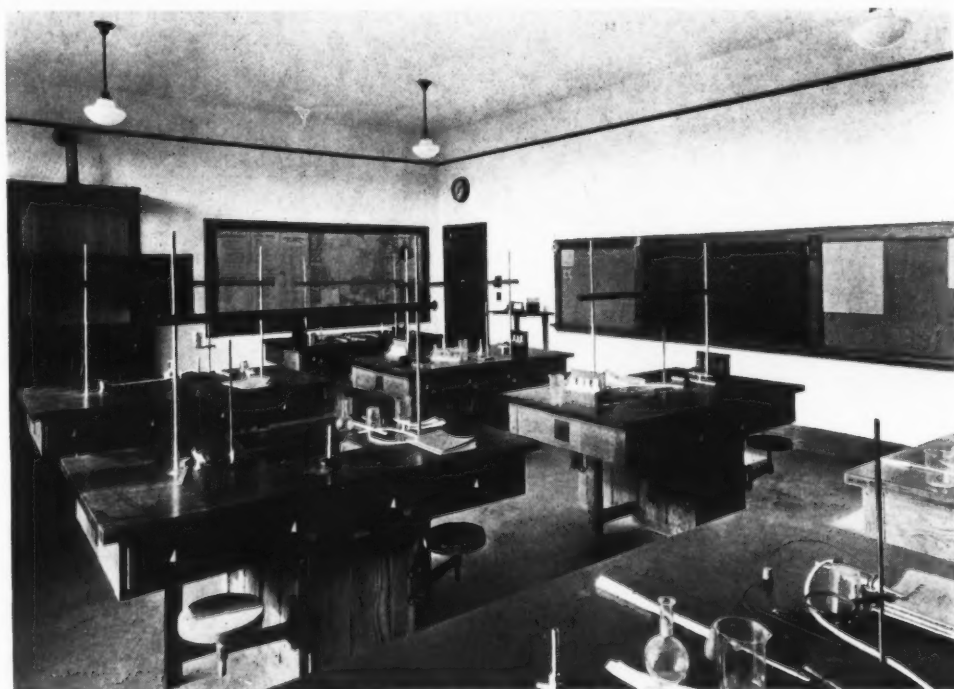
The ideal of educational opportunity for rural children, equal to the best which city children enjoy, is being realized in an increasing number of school consolidations in New York state. The success which is being achieved is due not so much to a superior economic situation in the farm areas comprising the consolidated districts, as it is to the enlargement of areas included, and careful planning on the part of the executive and administrative officials. This planning frequently involves rather complete studies of a variety of factors—distribution of population, trading centers, church and social centers, road and highway travel, natural and artificial barriers—that contribute remotely but effectively to successful centralization.

The readier means of transportation possible with improved roads and fast motor trucks is undoubtedly the single factor which permits of the enlargement of areas so that great numbers of children—500 to 1,000—may be enrolled in a single school. For such numbers of pupils it is possible to provide a rich educational program at a minimum cost, and it is equally possible to plan and construct a school building to completely house a full and carefully balanced program at a greatly decreased cost per child.

The Waterville School

The new Central Rural School at Waterville, N. Y., represents a type of school building which is being erected to meet the new standards of school efficiency which New York state is setting up for its country children. The building serves a school district comprising the former village district and nine districts in the open country. It is planned for 728 children who may receive instruction in all the grades from the kindergarten through the high school, including all the extracurricular activities which heretofore have only been for the city child.

The first big problem of the new centralized school board, after their selection of Mr. Gor-



SCIENCE LABORATORY, CENTRAL RURAL SCHOOL, WATERVILLE, NEW YORK
Gordon Wright, Architect, Syracuse, New York



CENTRAL RURAL SCHOOL, WATERVILLE, NEW YORK
Gordon Wright, Architect, Syracuse, New York

don Wright of Syracuse as architect, was to decide where to locate the proposed new school. Should they buy a little adjacent property and use the old school site? Or, should they abandon the old site, which many taxpayers would object to, and purchase new property adjacent to the athletic field which had been given to the town and was well equipped with playground apparatus? Upon the advice of a representative from the state education department, the board wisely chose the latter site.

The new school is built on a main thoroughfare, which connects two much traveled state roads, and is seen by hundreds of tourists driving through. The new building has been a real advertisement for the town, because of its commanding location and fine appearance. The school busses are loaded in the parking area at the side and rear of the building, so that the children are kept well away from the passing traffic.

The building is a dignified colonial design, which is in keeping with the architecture of the town and ties it in with its surroundings. The exterior is constructed of variegated tapestry brick, with graystone trim. There are two main entrances — one leading through the main corridor directly to the gymnasium, and one to the auditorium. Additional entrances lead directly to the auditorium, the gymnasium, and the shop.

The school is a fireproof steel-skeleton building, constructed with masonry walls and partitions, and reinforced concrete foundations, floor and roof slabs. The inside trim is oak and the classroom floors are maple. Cold mastic is used for the floors in the corridors, the toilet rooms, the laboratory, and the shop. The floors of the auditorium and the approaching corridors are of terrazzo.

Acoustical treatment has been applied to the ceilings of the corridors, the shop, the music,

and the typewriting rooms. This, in connection with the quiet corridor floors, has reduced to a minimum the disciplinary problem caused by the noise and confusion of class changes.

The building is heated by vapor-steam, with thermostatic-controlled ventilating units, and additional controlled radiation in each room. The wiring is complete, with intercommunicating telephones, program- and master-clock

system, plugs for stereopticon, and outlets for a radio system in each room. Power outlets are provided in the shop and the laboratory.

In addition to the auditorium and the gymnasium, the ground floor contains a large shop, and an adjoining classroom-laboratory for agriculture; two units for homemaking, and a large well-lighted and well-furnished cafeteria, with separate kitchen.



EASTMAN AUDITORIUM, CENTRAL RURAL SCHOOL, WATERVILLE, NEW YORK
Gordon Wright, Architect, Syracuse, New York



THE SHOP LOOKING TOWARD AGRICULTURE ROOM, CENTRAL RURAL SCHOOL, WATERVILLE, NEW YORK
Gordon Wright, Architect, Syracuse, New York

The first and second floors house the kindergarten, nine grade rooms, the principal's office suite, a teachers' room, a clinic, and a high-school department, with science rooms, music, drawing, commercial, and typewriting rooms, library, study hall, and recitation rooms.

The gymnasium, which is located on the ground floor, can be reached by a separate entrance. It may be shut off completely from the rest of the building when it is used for community affairs. It has a standard basketball court, with playing space on the sides and ends, has permanent bleacher seats for 480, and is directly accessible to the playground and athletic field. A loud-speaker from the auditorium radio furnishes the gymnasium with music.

The auditorium, which is on the ground floor, is reached through the separate entrance marked "Auditorium," and is a delightful departure from the usual school assembly hall.

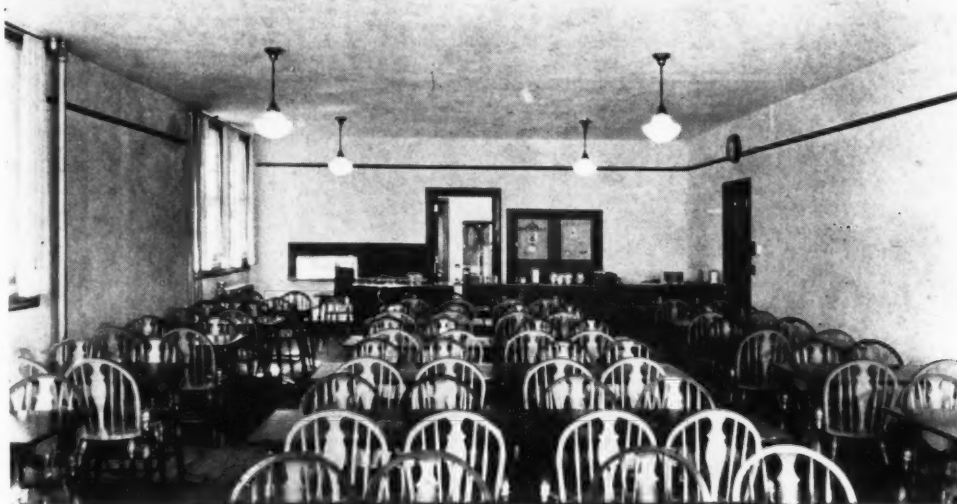
After the contracts were let for the building, Mr. George Eastman, of Rochester, decided to

make a gift to the school which would dedicate the auditorium to the memory of his parents, former residents of Waterville. As a result, the architect was able to enrich the auditorium, keeping always in mind that while it must be a fitting memorial, it must also raise the artistic standards of the community, and must be so simple that it will harmonize with the rest of the building. Consequently, the school has a beautiful auditorium in green and ivory, reminiscent of the work of the Brothers Adam.

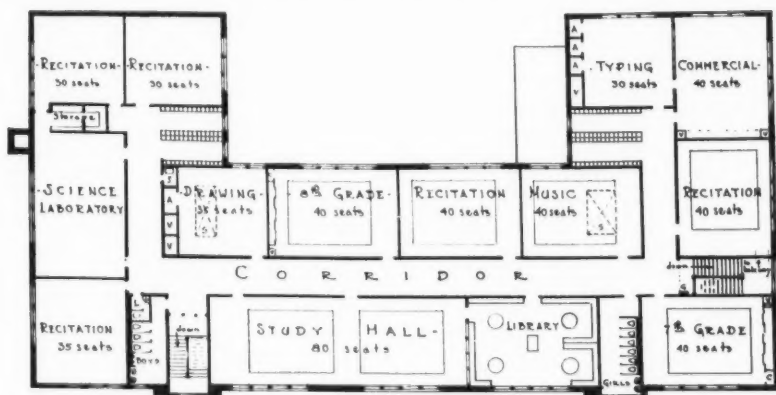
Heavy draperies are arranged at the windows to completely darken the auditorium for the use of moving pictures. The balcony helps to bring the audience near the stage, and there is an atmosphere of charm and intimacy which is unusual in a school auditorium seating 560 persons.

To the architect, acoustics is a science — not a matter of guesswork — and this auditorium is acoustically perfect. A small child may be distinctly heard in any part of the hall. The stage is fully equipped with modern lighting arrangements, and the stage setting and cur-

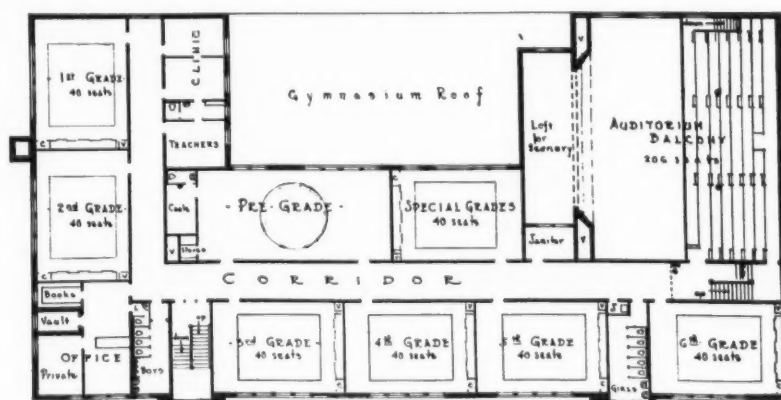
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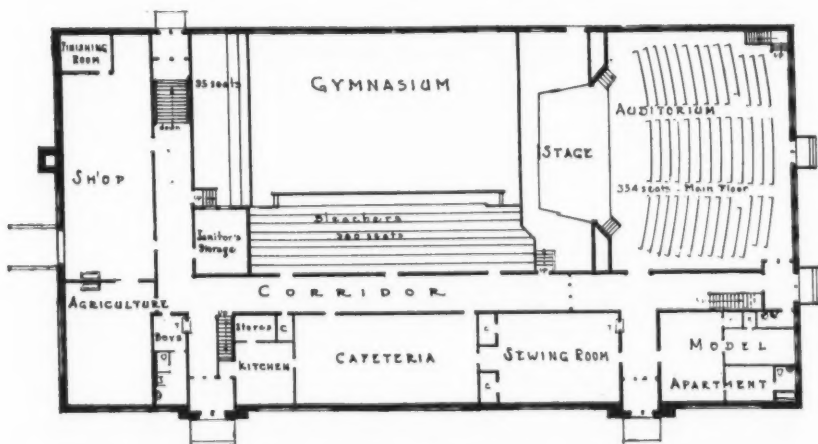
CAFETERIA, CENTRAL RURAL SCHOOL, WATERVILLE, NEW YORK
Gordon Wright, Architect, Syracuse, New York



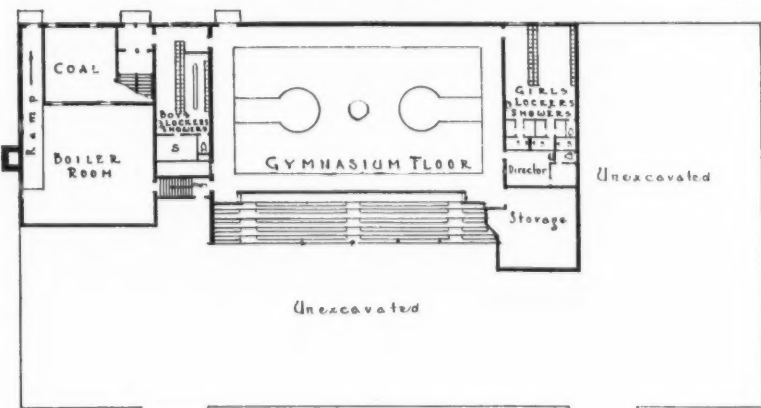
SECOND FLOOR PLAN



FIRST FLOOR PLAN



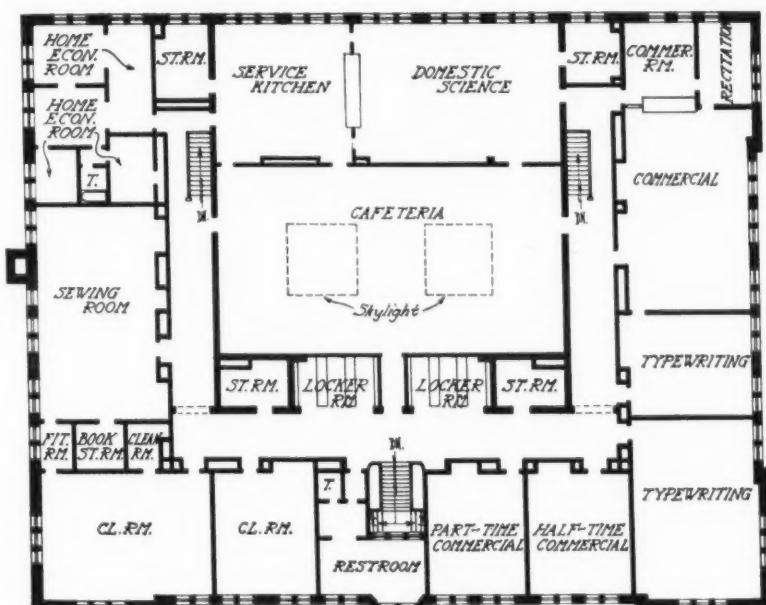
• GROUND FLOOR PLAN •



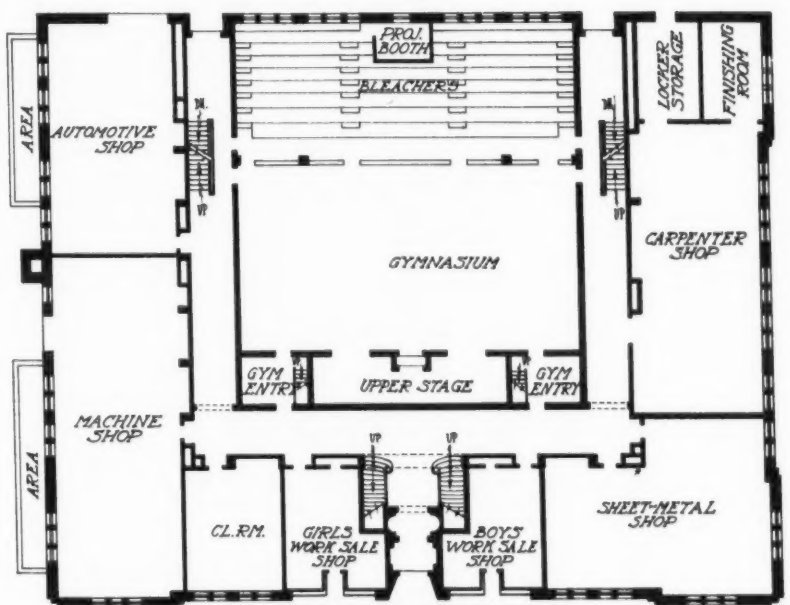
• GYMNASIUM FLOOR PLAN •
Scale: 1 inch = 10 feet



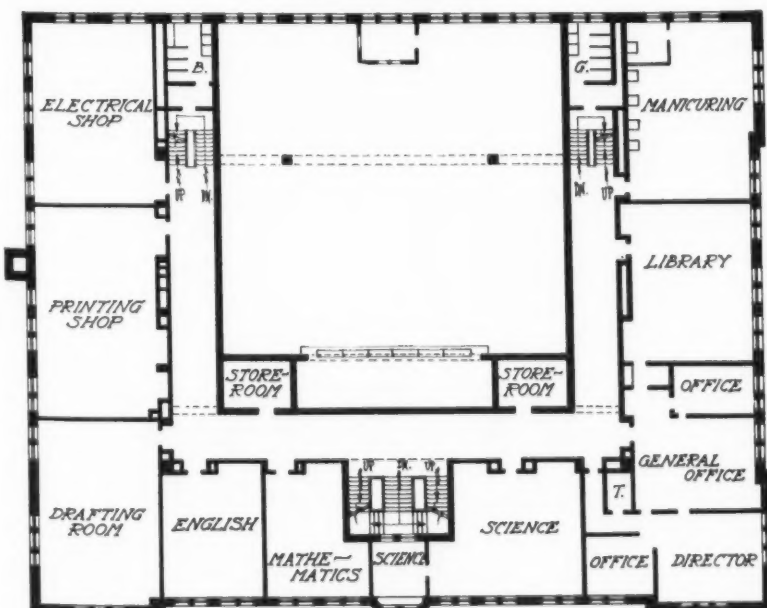
VOCATIONAL SCHOOL, GREEN BAY, WISCONSIN
Foeller, Schober and Berners, Architects, Green Bay, Wisconsin
(See Page 124)



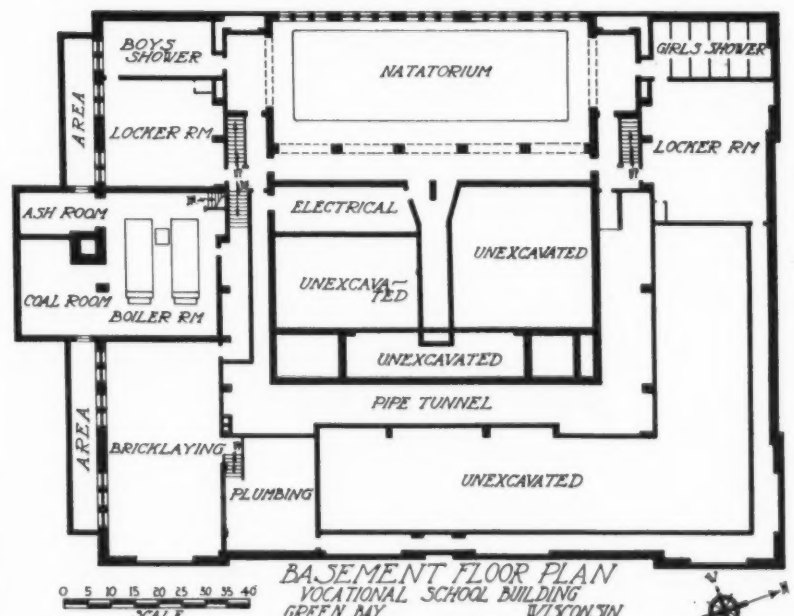
THIRD FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



BASEMENT FLOOR PLAN
VOCATIONAL SCHOOL BUILDING
GREEN BAY, WISCONSIN
FOELLER-SCHÖBER ARCH.

VOCATIONAL SCHOOL, GREEN BAY, WISCONSIN
Foeller, Schober and Berners, Architects, Green Bay, Wisconsin



INTERIOR VIEWS OF THE VOCATIONAL SCHOOL, GREEN BAY, WISCONSIN

Foeller, Schober and Berners, Architects, Green Bay, Wisconsin

TOP ROW, Science Laboratory and Unit Kitchen; SECOND ROW, Cafeteria and Commercial Homeroom; THIRD ROW, Library and Drafting Room; FOURTH ROW, Carpentry Shop and Home Economics Department. (See Page 124.)



THE BOBO HIGH SCHOOL, CLARKSDALE, MISSISSIPPI
P. J. Krouse, Architect, Meridian, Mississippi

A Southern Community School Group

In constructing and furnishing the Bobo High School building during the summer of 1930, the city of Clarksdale, Miss., completed an inclusive school-building program. The city is the possessor of a large central school site, which is now occupied by a grade school that serves the immediate neighborhood, a completely modernized junior high school which was formerly the junior-senior high school, and the new Bobo High School which is entirely devoted to senior-high-school use. The program involved five separate undertakings which were necessary in order to bring the school plant up to the instructional program and provide space for the growth in school population:

1. An addition was built to the Oakhurst School to house a kindergarten room and a new first-grade room, with separate entrances, toilet rooms, and workrooms.

2. The gravity heating system in the Oakhurst School was entirely remodeled for vacuum-steam service and was connected with the new central heating plant.

3. A central heating plant was erected to serve the three buildings in a most economical manner.

4. The Dorr High School building was thoroughly remodeled and refinished for use as a junior high school.

5. The Bobo School was erected and furnished to unify and round out the school system.

The program involved an expenditure of \$265,000 and provides the community with a central school plant which is the equal of any in the State of Mississippi.

The Bobo High School

The new Bobo High School contains on the ground floor four classrooms, two large science

laboratories, an office suite including a reception room and private offices for the superintendent and the principal, and a large cafeteria with a kitchen, pantry, etc. The offices are limited in size and appointments because they serve only

for the high school proper. The administrative offices of the school board and the executive office of the superintendent are located in the Dorr Junior High School.

The second floor of the high school contains



TYPEWRITING ROOM, BOBO HIGH SCHOOL, CLARKSDALE, MISSISSIPPI
P. J. Krouse, Architect, Meridian, Mississippi



CHEMICAL LABORATORY, BOBO HIGH SCHOOL, CLARKSDALE, MISSISSIPPI
P. J. Krouse, Architect, Meridian, Mississippi

three classrooms, a large library, a study hall, a teachers' restroom, and toilets. The main floor of the gymnasium, together with the locker and shower rooms, is entered from the second floor.

On the third floor there are four classrooms, a commercial department, and a small assembly hall or little theater. The spectators' galleries of the gymnasium are entered from the third floor.

The school has no auditorium for the reason that the junior high school adjoining it has a large auditorium which serves both schools. The little theater serves assembly purposes to which limited groups are invited and is used for student activities and for community theatricals. Shop facilities for the boys and home-economics facilities for the girls have been omitted from the building for the reason that these depart-



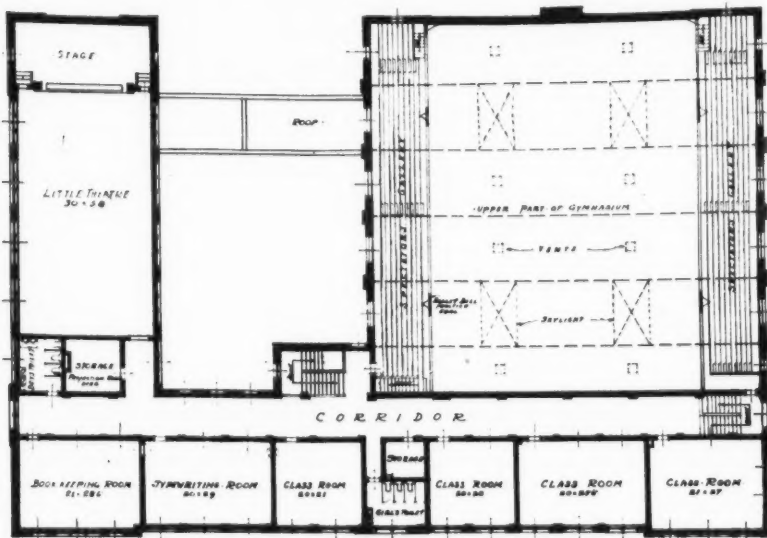
CENTRAL HEATING PLANT AND BAND QUARTERS,
BOBO HIGH SCHOOL, CLARKSDALE, MISSISSIPPI
P. J. Krouse, Architect, Meridian, Mississippi

ments are located in the Dorr Junior High School.

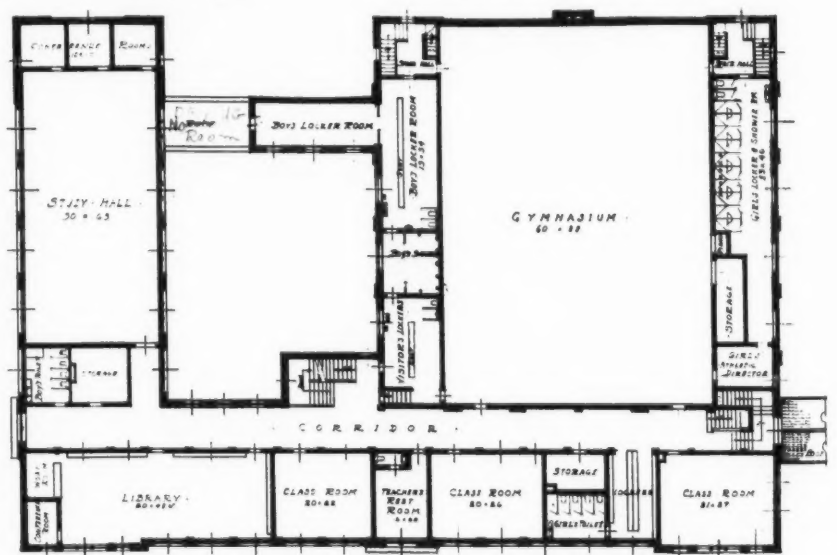
The building is constructed with a concrete frame and with brick and tile walls. The finish floors in the corridors are of tile and the classrooms have hardwood floors and plastered walls and ceilings.

The Bobo High School was planned and erected under the supervision of Mr. P. J. Krouse, architect. The cost was \$190,000, exclusive of equipment. On the cubic-foot basis, the cost was 22 cents. The movable equipment cost \$25,000.

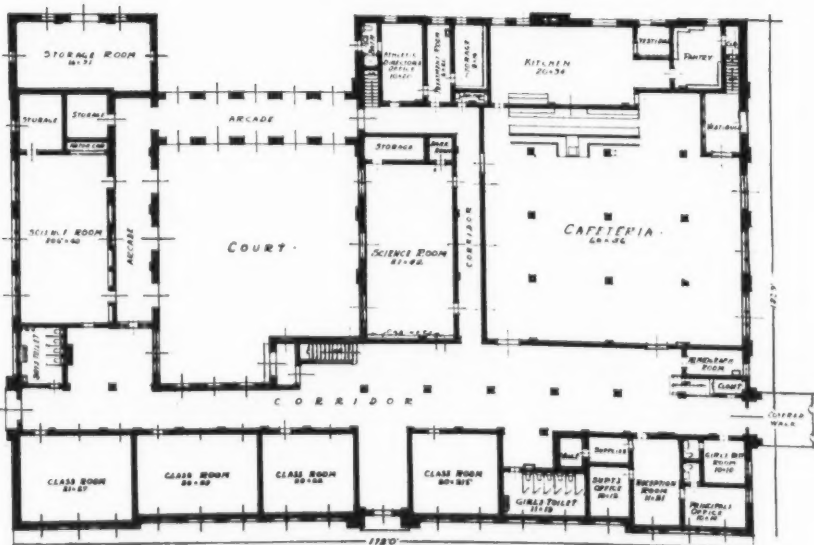
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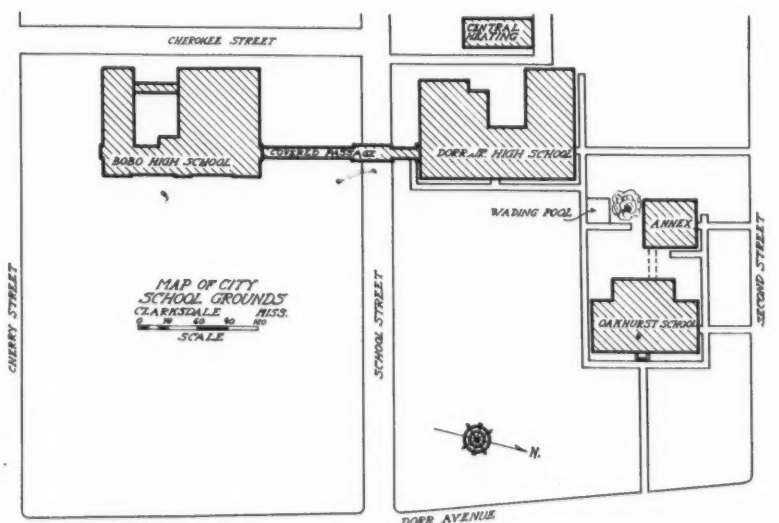
THIRD FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN



PLOT PLAN

BOBO HIGH SCHOOL, CLARKSDALE, MISSISSIPPI
P. J. Krouse, Architect, Meridian, Mississippi

The Desirability of Standards in Instructional Supplies

H. D. Richardson

The product of the artist, the craftsman, and the scientist alike, depends upon the nature and quality of the fashioning materials and the kinds of instruments used in the process. Likewise the products of education, the minds created by boys and girls in school, depend in no small measure upon the nature, kind, and quality of the fashioning materials and instruments — the instructional supplies. In the past, little serious attention has been paid to how, why, or for what purpose instructional supplies were being used. Nor has much study of the application of good business practices in the selection, purchase, and distribution of instructional supplies been made. Standardization of instructional supplies involves a study of the utilization, selection, purchase, and distribution of the materials used in fashioning educational products.

Commercial and industrial enterprises have long recognized the necessity and value of standards in raw materials, instruments of production, and finished products. In these fields, agreement and acceptance of type articles leading to a reduction in the number of varieties, kinds, and styles, and a consequent economy in production and marketing due to the elimination of waste, make standards highly desirable. These advantages of agreement and acceptance, simplification, and economy would hold for the production and sale of school instructional supplies. Standardization of instructional supplies should meet with approval from the manufacturer. Are standards in instructional supplies desirable from the standpoint of the pupil, the teacher, and the school administrator? Before answering this question, standardization and standard need to be given meaning.

The Problem of Standards

A standard is something that has been defined and accepted. In general, a standard instructional supply is an article which has been defined (specifications have been given it) and which has been adopted or accepted (teachers have agreed to use it) as a means or an aid in carrying forward a desirable instructional activity. Standardization of instructional supplies thus becomes a problem of determining specifications for certain articles deemed necessary to further learning activities, and of accepting these articles for use in carrying these learning activities to completion.

With this conception of standardization—the discovering, defining, and accepting of the best types of materials to carry on desirable instructional activity — the learning activity is fundamental, and it is difficult to see how standardization of the materials and tools of instruction would seriously handicap individuality and variety in either teaching or learning procedures. Standardization does not mean the reduction of varieties of supplies within limits so narrow that but one type of work can be performed in but one way with given materials. It means, rather, the selection of the best types of materials that will make possible the best types of work, and further, the continued research for new and improved materials better adapted to new and improved types of instruction and individual habits of work.

Standardizing instructional supplies should in no way limit the desirable methods of using them. Any instructional activity would seem to be best carried through by definite types of materials, standardized for type or kind, quality, and service. After due experimentation, trial, selection, and adaptation, these types become known. This is the standardizing process. Materials selected and agreed upon become

standards for the time being. As the activities of instruction change, new standards in instructional supplies must be developed. Thus, in the determination of standards, careful and continuous analysis of instructional materials as to type, quality, service, and use, is demanded, and it should follow that instruction and work habits should in no way become mechanical and formal, but rather the better standard materials should make, allow, and provide for creative individuality in learning activities.

Use as the Measure

The teacher and pupil are concerned with instructional supplies from the standpoint of the use that is made of them. This makes it desirable that "utilization standards" be determined. Standards of utilization or consumption are those developed in connection with the use of supplies in instructional activities such as quantity used, time when used, place where used, and by whom used. Efficiency in requisitioning, budgeting, purchasing, and distributing educational supplies demands that utilization standards be developed. Quantity utilization standards are determined by rates of consumption of supplies. Quantity utilization standards enable the room teacher, building principal, and superintendent to requisition adequately, but not extravagantly.

Quantity standards also insure equitable distribution of supplies. "Time-when-used" standards enable the purchaser to buy advantageously and economically. By knowing the quantity needed and the time when needed, he can buy when prices are "right" and have deliveries made accordingly. Or, if it is expedient to buy in large quantities for immediate delivery, storage can be arranged for, and delivery from storage can be systematized. Thus, standards for time used are necessary for efficient functioning of the storage department. Standards of place where used and by whom used also aid in the actual distribution of supplies. Standards of place where used implies the purpose for which supplies are used. That is, where supplies are used depends upon the purpose they are to serve (see Table I).

In this connection, standard instructions controlling the use of special supplies are of importance. Standards of purpose prevent one department or grade from getting supplies not warranted for their particular use. Likewise, standards of purpose prevent indiscriminate substitu-

tion in case of shortage in similar articles. For example, grade teachers of arithmetic would be furnished one type of paper for arithmetic and the typing department a different kind, and neither would be justified in requisitioning or using the other kind in case of shortage. Standards of purpose demand careful consideration and analysis of the situations or activities in which supplies are needed, both as to quantity and quality, and kind of article. Table II shows one plan for the allocation of instructional materials.

Standards of "by whom used" aid in the control of the quantity of supplies used in various buildings, departments, and grades. Extravagance and waste are eliminated, and similar "places" receive similar quantities. This keeps per-pupil supply costs equalized in the various similar buildings, departments, and grades. Extravagant pupils and teachers alike are held in check.

Standards of Purchases

The school administrator is concerned with instructional supply standards indirectly from the standpoint of their utilization, but more directly from the standpoint of furnishing them for use. This makes it desirable that standards of "purchase" be determined. Standards of purchase are those that are of vital significance in directing and controlling purchases — the immediate acts of buying and budget preparation. The usual standards of purchase are those of quantity, quality, and service. The purchasing agent needs definite information concerning the quantity of supplies, the quality of each article, and the service to be expected of each. Only with this information can he be expected to spend money wisely and economically.

Standards of quantity are determined by the rate of consumption per individual and optimum learning results. Suggested standards of quantity for elementary instructional supplies are presented in Table III. With the amount or quantity used per pupil defined and accepted, the business manager can, after predicted enrollment statistics are available, budget the quantity of supplies actually needed. Table IV illustrates the analysis of the per-pupil supply allowance for drawing, the enrollment by grade, and the budgetary requests. This, together with standards of time when used, will enable the purchasing agent to take advantage of "best prices" and prevent over- or understocking.

TABLE I. Mathematics Supplies for Junior and Senior High Schools, Los Angeles, California*

Std. unit	Item	Stock number	Estimated quantity	Est. price per std. unit
Each	Compass, excelsior wing attachment.....	25502		\$.12
Each	Folders, Manila, letter size.....	25381		.01
Bot.	Ink, India, black, Higgins, (small bottle).....	27067		.14
Pad	Paper, bogus Manila, squared, 9 x 12", 1/4" cross section, (24 sheets to pad).....	26380		.03
Pad	Paper, graph, 8 1/2 x 11" green lined, 10 lines to inch, heavy line every 1/2", No. 575, Codex, Eugene Dietzgen Co. (64 sheets to pad).....	28095		.25
Sheet	Paper, heavy, white, drawing, 19 x 24", No. 44 linen ledger.....	26897		.03
Each	Yardstick, metal tipped.....	25417		.13
Each	Board, graph, approx. 45" ruled in 1" squares; central lines to be orange, other lines white, every fifth line from center line to be heavier white. Per B/P in the mill.....			16.00
Each	Caliper, 12" inside, improved firm joint Starrett No. 27.....			.80
Each	Compass blackboard and protractor combination. (Golden blackboard outfit No. 1299A, Eugene Dietzgen Co.) One to a teacher.....			4.50
Each	Compass, blackboard, No. 63.....			.65
Each	Protractor, brass, black numerals, No. 1935 1/2 Eugene Dietzgen Co., 3 1/2".....			.15
Each	Tape, steel, 50', No. 5274C, Eugene Dietzgen Co.			2.50

*This table, which is a small extract from a tabulation prepared annually in the office of the superintendent of schools of Los Angeles, is intended to show the general layout of a standard supplies list. It should be noted that the specifications are exactly drawn.

TABLE II. A Plan for the Allocation of Certain Type of Materials in Several Grades*

Article	Quantity (Grades)	Unit of measure	Unit price
Alcohol	Denatured 1 quart to departmental grades 7 and 8 per year, for thinning shellac and cleaning brushes	quart	.22 1/4
Board	Chip, for mounting, 22 x 28 Grades 1, 2, 3, and 4, four sheets per teacher, per year Grades 5, 6, 7, and 8, six sheets per year (To be used if a building exhibit of artwork is planned)	sheet	.023
Board	Beaver, 6 x 6, for tiles, grade 8 One piece per pupil per year		.0135
Board	Chip, 8 1/2 x 11 (50 sheets in package) Sixth-grade bookbinding, two pieces per pupil per year	package	.60
Board	Chip, 9 x 12, for mounts (50 sheets in package)	package	.20
Board	Chip, 12 x 18, for mounts (50 sheets in package)	package	.40
Brushes	Paste, 1 inch One set for use in sixth-grade bookbinding	dozen	.08 1/3
Clay	Modeling (100 pound jar)	jar	3.03
Card Holders		each	.018
Chalk	Blackboard, assorted colors, brilliant American No. 510 (1 box per building, per year) (1 gross in box) colored, American No. 45	box	1.47
Crayons	Grades 1, 2, 3, and 4, one box per pupil, per year Grades 5 and 6, one set (4 dozen) for two rooms Grades 7 and 8, one set (4 dozen) for the department, per year	box	.10
Crayons	Brown, American No. 45 (Refills for boxes)	each	.01 1/3
Felt pads for stick printing boxes		dozen	.01 6/10
Medicine droppers	One set of three for each school (to be used in replenishing stick print boxes)	set	.225

*This table shows a method of figuring the allocation of certain types of materials which are used in a considerable number of grades in varying annual amounts. Taken from Engelhardt and Engelhardt's *Public School Business Administration*, pp. 660-661.

TABLE III. Elementary Education: Articles of Educational Supply per Semester (20 Weeks)*

Article	Kdn.	1	2	3	4	5	6	7	8
Pens	0	0	10	10	20	20	20	20	20
Pencils	0	5	5	5	5	10	10	10	10
Penholders	0	1	1	1	1	2	2	2	2
Erasers	0	1	1	1	1	1	1	2	2
Spelling paper (sheets)	0	60	100	100	100	100	100	50	50
Arithmetic papers (sheets)	0	40	40	100	100	100	200	200	200
Scratch pads		2	2	4	4	8	8	10	10
Composition paper (sheets)		20	20	40	40	80	80	160	160
Drawing paper	20	20	20	20	40	80	80	80	80
Colored paper	20	20	10	5	5				
Scissors	1/8	1/8	1/8	1/8					
Needles	2	2	1	1					
Clay (lbs.)	1								
Crayons	3	3	3						
Paints	0	3	3	3	3	3	3	3	3
Brushes	0	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Paste (bottle)	1/4	1/8	1/8	1/8	1/8	1/16	1/16	0	0
Sand (lbs.)	10								
Weaving material	1	1	1/2						
Cooking supply units						10	10	10	10
Sewing supply units						10	10	10	10
Manual-training units						10	10	10	10

*This table shows a method of figuring the number of articles used in all the grades when the same materials are equally usable in each of the grades. Taken from Moehlman's *Public School Finance*, p. 252.

TABLE IV. Drawing Supply Allotment by Grade Per Pupil Enrolled for a Four-Year Period and the Budgetary Estimate for 1927, Minneapolis Public Schools*

Grade	1924	1925	1926	1927	Number of pupils enrolled	Total budgetary estimates
1	.47	.45	.45	.45	7,477	\$3,364.65
2	.47	.45	.45	.46	6,883	3,166.18
3	.40	.41	.41	.37	6,607	2,444.59
4	.35	.29	.29	.28	6,409	1,754.92
5	.21	.19	.19	.18	6,290	1,132.20
6	.21	.19	.19	.20	5,894	1,178.80
7 ¹	.21	.10	.10	.20		
8 ¹	.21	.19	.19	.20	4,148	829.60
7 ²	.36	.36	.36	.36		
8 ²	.36	.36	.36	.36	7,739	2,786.04
9-12	1.75	1.75	1.75	1.75	625	1,093.75
Total					52,072	\$17,790.33

*This table is intended to show a method for figuring an annual supply allotment on the basis of cost per pupil. This method has the weakness of failing to take into account changes in price during a period when prices are either rapidly increased or decreased. The table is taken from Engelhardt and Engelhardt's *Public School Business Administration*, p. 662.

¹Grades in elementary-school buildings.

²Grades in junior-high-school buildings.

Standards of quality and service are expressed as specifications or definitions of supply articles. Specifications for quality of composition, design, construction, workmanship, and finish of articles, and the function or service expected of each article should be definitely, clearly, concisely, and explicitly stated in order that both the purchasing agent and the vender shall have no misunderstanding as to what the article is. A sample of such specifications for a relatively common supply article follow:

Article: PADS, SCRATCH

Unit: Each Estimated Unit Price: \$.02

Purchase Specifications:

Scratch pads, size 7 x 9 3/4 inches, 72 sheets to tablet. No. 60 strawboard back, firmly and neatly glued to

one end. Trimmed, wrapped and securely tied in bundles of 50 pads each (2 piles of 25 pads), the tying strings to pass once around the length of each bundle. Bundles to be marked "Pads" on one end. This method of tying must be used to prevent the string from cutting between the inclosed piles.

From the standpoint of administration, standards of purchase and utilization require a standard classified supply list. The standard classified supply list, supplemented by purchase specifications for each item, would simplify the work of the purchasing agent and insure quality for money expended. Such a supply list arranged in accord with adopted accounting, purchasing, and distributing forms would result in economy of time and effort of clerks in the accounting and storage departments.

In summary, standards in instructional supplies are desirable and necessary both for economy and efficiency in instructional activities and business administration of schools. The highest instructional efficiency requires carefully defined and selected instructional supplies. These are furnished by standards of utilization. Sound business administration of schools must concern itself with the utilization, selection, purchase, and distribution of instructional materials. Unit costs must be determined and adequate accounting practices developed. The business administrator is dependent upon standards of purchase and standards of utilization in instructional supplies both as sources of data and as controls in efficient business practices.

LIABILITY OF A SCHOOL DISTRICT ON A CONTRACTOR'S BOND

Leslie Childs, Esq.

Generally speaking, contracts for the erection of school buildings provide for the retention of a percentage of the contract price by the district, pending the final completion of the work. Such provisions are, of course, made for the protection of the school district, the materialmen, the contractor's bondsmen, and others interested in the payment of the contractor's obligations.

By the same token, a clear violation of a provision of this kind on the part of a school district, which results in loss by any party protected thereby, may render the school district liable. Needless to say, this is a point of great interest to school-district executives in charge of building operations, and unless kept in mind may easily lead to serious loss on the part of the district. For example:

District Makes Premature Payment to Contractor

In a recent case of this kind, the defendant, a school district, let a contract for the erection of a school building for \$254,900. The plaintiff, a surety company, became the surety on the contractor's bond to the extent of \$84,970. The contract, among other things, provided that the district should retain 15 per cent of the contract price until final settlement, and that this should not be paid until the contractor had submitted evidence showing the payment of all payrolls, material bills, etc., to the satisfaction of the architect in charge.

Pursuant to this contract, the defendant paid the contractor 85 per cent of the price of the work as it was completed, based upon certificates of the architect issued from time to time. When the work was substantially completed, the architect issued the contractor a certificate for \$35,000, which included all but a small balance of the 15 per cent of the contract price that had been reserved.

In issuing this certificate, the architect failed to require the contractor to show evidence that payrolls, material bills, and other indebtedness connected with the work, had been paid. The defendant school district, honored this certificate, and the contractor deposited the money in a bank. The latter applied the money to an indebtedness owing it from the contractor, and none of this money was used to pay the materialmen.

It then developed that the contractor had unpaid bills against the work of over \$40,000. Shortly thereafter the contractor was adjudged a bankrupt, and the plaintiff, as surety on his bond, paid the unsatisfied claims against him growing out of the building contract. The plaintiff brought action against the defendant school district, seeking reimbursement.

This action was taken on the claim that the act of the defendant in paying the last payment of \$35,000 was done in violation of the terms of the contract, in that no proof was required of the contractor that his bills had been paid. This,

(Concluded on Page 130)

Does State Insurance on School Property Pay?

P. K. Platts, Florence, Alabama

In 1920 the population of North Dakota was 646,872. In 1929 the people of that state saved themselves \$339,476.95 by acting as if public property belonged to the state instead of to the individual cities, counties, school districts, etc. The state operates a state insurance fund covering such property. Acting on the opposite theory, that the property of a city or school district is public property of that unit alone, during the fiscal year of 1927-28 the taxpayers of Pennsylvania, outside of Philadelphia, paid to insurance companies \$1,097,000 of public-school money alone—and received back but \$176,000 to cover losses.

I undertook the investigation of this subject in an effort to find a way to make more funds available for schools here in Alabama where cities often charge their own children tuition in the elementary grades, where funds are wanting to buy books for children who cannot afford to pay for them, and where terms are being shortened at the moment of writing. Perhaps no other state is in such extreme distress, but a logical economy ought to be welcome anywhere. Figures reported are the latest given me since November, 1929, by the various state and city offices most directly concerned.

If a man owned a thousand ordinary houses scattered over an area the size of an ordinary state, he would naturally expect to suffer some fire damage every year. Suppose he follows the practice of carrying commercial fire insurance on each of those houses. After a few years he will find that he is paying annually two or three dollars to the insurance companies for every one he is receiving back to cover losses. Thereupon he might logically and safely conclude to keep in his jeans the dollars he had been paying the insurance companies—then pay out only that part of them necessary to repair and replace.

The average man owns but one or two houses and cannot afford even to risk losing one of them by fire. To protect him is the legitimate business of the fire insurance company. His protection is not complete; he is not secure unless the company has behind it a big reserve—it must prosper.

If a school district owns but one or two schools, and must stand alone, insurance with a company is logical. But the "district" controlling the schools of the city of New York owns 891 buildings, in a territory embracing about 312 square miles. So the city of New York finds it more profitable to keep those insurance dollars in its own pockets and pay out only the damage costs. During the past twelve years these fire losses have averaged annually about 12½ cents, not per hundred, but per thousand dollars invested in buildings and equipment.

Likewise, Chicago, Detroit, Boston, St. Louis, Washington, and even Providence, do not carry insurance on their school buildings. Philadelphia dropped commercial insurance in 1913, making annual appropriations to an insurance fund instead. Since that time the total fire damages have cost a little over \$400,000. It is officially estimated that commercial insurance for that period would have cost about \$1,250,000. Thus about \$850,000 of the people's money has been saved and put into the construction of fireproof structures to replace firetraps.

By appropriating \$25,000 a year (the estimated cost of commercial insurance), the school board of Cleveland has built up an insurance reserve fund of \$400,000 during the tenure of the present director of schools, F. G. Hogen. Whether or not to put this saving into the construction of new buildings is now under consideration.

On the other hand, Los Angeles is compelled by law to carry commercial insurance. New Orleans pays \$58,000 per year for fire insurance on its schools, while, from the statement at hand, it appears that the fire losses within the past three years have been less than \$40,000.

Out of public-school funds the taxpayers of West Virginia, during the past fiscal year as reported in November, 1929, paid out \$352,068 to insurance companies and received back \$165,538 to cover fire losses. The taxpayers of Pennsylvania, outside of Philadelphia, paid out \$1,097,000 of public-school money in premiums in the fiscal year 1927-28, and received back \$176,000. Little Delaware gives \$25,406 and \$900, respectively, for these items. These figures are not available for the 42 other states, having no state insurance on public schools. The study upon which the Alabama rate was based in 1923 indicated that 32 per cent of the premiums paid to companies had been returned to cover fire losses.

By paying the premiums on all "state institutions" into a sinking fund instead of to fire insurance companies, the State of Florida has "earned" a third of a million dollars since 1917. But "state institutions" means only those controlled by the state immediately, such as the university, state prisons, etc.

Alabama has gone a step further. Alabama assumes responsibility for rural, county high schools, and secondary agricultural schools, along with most of the state institutions—but not for city schools—in a state insurance fund. Premiums are paid into the fund by the units concerned. The rural schools are given a 40-per cent discount on the commercial rate, and tornado losses are covered. On September 30, 1926, after operating three years, the fund reported assets of \$78,863.64, and an estimated saving to the people of the state of about \$250,000. The total assets of the fund October 30, 1929, amounted to \$233,338.03, at which time no estimate of total savings was made.

South Carolina makes no distinction between rural schools and city schools, and in addition all county property is carried by a state insurance sinking fund. The first premium was paid into this fund in 1900. The rate charged is 20 per cent below commercial rates; tornado loss is covered without extra charge, and so long as this fund remains above \$1,000,000, insurance is free to property on which premiums have been paid for five years. The fund has been above that mark most of the time since 1925 and over 60 per cent of the total insurance written was carried without any premium charges last year. Operating costs have averaged less than 3 per cent of the gross income. Mr. M. J. Miller, secretary of the sinking fund commission, figures that the fund saved the people of the state \$260,760.03 in 1928 and \$291,000 in 1929.

Alabama balked at putting city schools and county property in quite the same category as rural schools, or county high schools, but North Dakota goes to the logical limit and insures property of cities and towns—in short, all public property—in her fire and tornado fund. The net income to this fund for 1929 was \$339,476.95 and the total fund on November 30, 1928, after an existence of ten years and six months, amounted to \$1,363,290.85. Since the rates approximate commercial rates, these figures represent the savings to the people of a state whose population in 1920 was less than 700,000. During 1929 the interest on this fund more than paid all losses besides all adjusting, operating, and miscellaneous expenses.

As the Florida and Alabama funds do, North Dakota carries reinsurance—insurance in commercial companies covering risks above a certain amount on the more expensive buildings. As soon as the funds are large enough to make it safe, further great savings will become possible by dropping this feature. The manager of this fund, Mr. F. E. Tunell, has already made this recommendation and will be able to show the next legislature that, during 1929, the fund paid to insurance companies premiums amounting to \$145,914.98 and that they paid back only \$2,620.84 for losses on public property. The premiums were for two years and the losses for one year, but the difference is still very great. Two years ago South Carolina stopped placing reinsurance with commercial companies and pays into a special fund the amounts the companies would demand. In two years this reinsurance fund has accumulated assets of over \$120,000.

Outside of the three states, Alabama, South Carolina, and North Dakota, a school district must look out for itself. In most cases it is in the position of the man with just a few houses, and must insure. Thereby the people of those states pay out, on the average, two or three dollars for each dollar returned—year after year. In the case of Minneapolis with its 117 schools, the administration would like to pay what is now paid to insurance companies into a contingent fund, but the state law will not permit appropriations for such a fund.

The administration's desire is explained, and the effect of modern construction and improved methods upon the problem are well illustrated by these figures based on the experience of the public schools of Minneapolis.

Period	Premiums Paid	Losses Reimbursed	Per Cent Reimbursement to Premiums Paid
1909-1913 inc.	\$ 47,672	\$100,571	211.9
1914-1918 inc.	65,435	33,895	51.8
1919-1923 inc.	124,977	29,654	23.7
1924-1928 inc.	166,140	2,224	1.3

"On all classes of fire insurance written in Minnesota, the insurance companies have been making an average gross profit of 48.9 per cent, whereas the gross-profit percentage on the Minneapolis public-school business for cumulative five-year periods has been as follows":

Cumulative Periods	Percentage Gross Profit on M.P.S. Business	Ins. Co.'s Ten-Year Average Gross Profit Percentage	Bonus Paid by M.P.S.
1928-1924	98.7	48.9	49.8
1928-1919	89.5	48.9	40.6
1928-1913	81.5	48.9	32.6
1928-1909	58.9	48.9	10.0

(These tables and the quotation are from a letter written by H. A. Jorgensen, Assistant to the Business Superintendent, Minneapolis, Minn.)

From the district with but one school building up to the district hesitating to launch out and take its own risks, the public at large, and by states, is paying two or three dollars for every dollar received back. The legal fiction in Alabama that a county high school is the property of the state while the county courthouse and the city school are not, illustrates the traditional type of reason which is doubtless most effective in preventing a more general use of state insurance. Every state has school buildings enough, certainly school buildings and other public buildings enough, to justify some plan of state insurance—and resources to make it safe. Why not save the people's money?

Does School Ventilation Aid Health?

A Study of Certain Factors in Connection with the Relationship Between Health and Type of Ventilation

Russell L. C. Butsch, Professor of Education, Marquette University, Milwaukee, Wisconsin

Purpose of the Investigation

The present investigation is a continuation of the studies of types of ventilation as related to respiratory illness carried on by the author, in the western suburbs of Chicago in 1927-28, and sponsored by the New York Commission on Ventilation.¹ This present investigation, like the other studies of the Commission, was financed by a subsidy from the Milbank Memorial Fund. In the case of the present study there was also an additional grant from the School of Education of the University of Chicago. The purpose of the present investigation was to obtain evidence concerning the relative effects on the health of the pupils of window-gravity and fan-gravity ventilation under conditions which were slightly different from these in the former studies.

Wherever buildings which normally use window-gravity ventilation have been compared with other buildings normally making use of fan-gravity ventilation, the absence due to respiratory illness has been found to be less in the window-gravity rooms. Among the criticisms which have been made of those studies one of the most important is that which points out the difficulty and uncertainty of obtaining strictly comparable groups under the conditions of the investigations. An analysis of the data of those studies has indicated that the factors of age, nationality, and social or occupational status will affect the rates of absence due to respiratory illness. The attempt has been made, in the more recent studies, to obtain groups which were similar in regard to all of these factors, or to prove statistically that the differences which existed were not sufficient to account for the differences in respiratory absence which were found.

Probably the most successful method of obtaining comparable groups with regard to all of the factors involved would be to use rooms within the same building, paired by grade. The most desirable situation would be one in which the rooms to be studied had been equipped for the types of ventilation to be compared, and had been in operation for some time with those methods. But such ideal conditions are not often found. Usually a building is limited to one type of ventilation. Where two distinct types of ventilation are found in the same building, usually all of the lower grades are in one section of the building and all of the upper grades in the other section. Thus it is impossible to make the proper comparisons, since age is probably the most important factor to be considered in obtaining comparable groups.

In the absence of ideal conditions just described, it appeared that the next best plan would be to use a building containing at least two rooms of each grade and equipped with one type of ventilation, and to change over one complete set of rooms to the other type. Until 1929 only one study had been reported in which this was attempted.² In that case, a building equipped for mechanical ventilation was used, and in some of the rooms the inlet ducts were blocked and those rooms became window-gravity rooms for the purpose of the experiment. According to the report the study was not completed because of complaints from the teachers in the window-gravity rooms. As far as the records went, they indicated a difference in absence

due to respiratory illness in favor of the fan-gravity rooms. During the year 1928-29 a study³ was carried on by Duffield for the New York Ventilation Commission in New York with rooms paired by grade within the same building. The present study, carried on under conditions somewhat comparable to those employed by Duffield, was begun on October 29, 1928, and continued until May 10, 1929. Records were obtained for eleven weeks in the first semester and fourteen weeks in the second semester.

The Schools Used

For the purpose of the present investigation, rooms included in six different buildings in the village of Oak Park, Ill., were used. Comparisons between the two different types of ventilation within the same building were obtained in the case of four of these buildings. All four buildings are regularly equipped for the type of ventilation known as the "split type." The rooms are heated primarily by radiators, under thermostatic control. The air for ventilation is heated to about seventy degrees and is then forced by fans into each room through inlet ducts. In three of the schools—the Beye, Hatch, and Longfellow—rooms were paired by grades, and one set was operated on the regularly installed fan-gravity system. In the other set of rooms, the inlets were blocked off, either in the rooms or in the ventilating tunnel, and the rooms were equipped with glass window deflectors and operated on the window-gravity system. In the fourth building, the Mann, the entire building was operated as window-gravity for the first semester and as fan-gravity for the second semester. In the case of all buildings there was sufficient radiation to heat the rooms properly, even during the most severe weather. Grades one to six were included in the study, although it was not possible to use all of these grades in the case of each building. A particular grade was included only where it was possible to obtain data for the two types in the same building. In addition, data from two other fan-gravity schools in the same system were included for comparison.

Method of Obtaining Data

The absentees in each room were recorded at each session by the teacher on specially prepared blanks. These lists of absentees were sent to the office of the school nurse, where the cause of absence in each case was ascertained and indicated on the blank by a code number. These blanks were collected at each school once a week, and used as the basis for the data concerning absence. The absences due to respiratory illness only were used in this study.

Absence Due to Respiratory Illness in the Different Ventilation Types

From these blanks the data for the two types of ventilation—window-gravity and fan-gravity—were obtained, and are presented in Table I

TABLE I. Percentage of Absence Due to Respiratory Illness by Grade

Grade	Window-Gravity Rooms			Fan-Gravity Rooms		
	1st Sem.	2nd Sem.	Year	1st Sem.	2nd Sem.	Year
1	6.18	5.99	6.08	7.75	4.30	5.80
2	5.54	4.01	5.58	4.43	3.77	4.05
3	4.67	4.64	4.66	5.12	2.73	3.62
4	3.15	2.81	3.00	4.85	2.37	3.47
5	4.22	2.02	3.34	4.32	2.06	2.96
6	4.73	2.31	3.76	4.08	2.08	2.93
1-6	4.74	3.77	4.32	5.28	2.98	3.94

¹Russell L. C. Butsch, "A Comparative Study of the Effects of Different Types of School-Building Ventilation on the Health of Pupils," *Elementary School Journal*, 30:16-26, 123-31, 208-17.

²F. G. Legg and W. F. Walker, "A Comparative Study of Natural and Mechanical Ventilation in Schoolrooms," *American Society of Heating and Ventilating Engineers*, 25:273-88; 1919.

³Thomas J. Duffield, "The School Ventilation Study in the Bellevue-Yorkville District of New York City," New York Commission on Ventilation. Distributed in Mimeographed Form, September, 1929.

for the first and second semesters, and the year. This table indicates that in the first semester the percentage of absence due to respiratory illness was 4.74 for the window-gravity rooms, and 5.28 in the fan-gravity rooms. In the second semester the percentages were 3.77 for the window-gravity and 2.98 for the fan-gravity rooms. In the first semester the window-gravity rooms had a lower percentage of such absence in all grades except the second and sixth. In the second semester the fan-gravity rooms had a lower percentage in all grades except the fifth. For the year the percentage in the window-gravity rooms was 4.32, and in the fan-gravity rooms 3.94. The fan-gravity rooms had the lower percentage in all grades except the fourth.

In order to determine whether or not any of the differences indicated in these tables were statistically significant, the probable errors of the percentages and of the differences between them were computed in several of the more important cases. The probable error of the percentage of absence due to respiratory illness was determined by the use of the following formula⁴ for obtaining the probable error of a percentage frequency:

$$P.E._p = 6745 \sqrt{\frac{p(100-p)}{N}}$$

The probable error of the difference between the percentages was determined by the use of the following formula⁵ for obtaining the probable error of the difference between two uncorrelated measures:

$$P.E._{A-B} = \sqrt{(P.E._A)^2 + (P.E._B)^2}$$

In the case of the first formula, it is necessary to decide what should be used as the value of N . In the previous study by the writer, already referred to, it was decided to use the number of pupils as N , and as the reasoning used in that case⁶ applies here as well, the same usage was followed in the present study. The probable errors were computed for two comparisons only, those between all window-gravity and all fan-gravity rooms for the two semesters. The probable errors of these percentages and of their differences appear in Table II. It is obvious from an examination of this table that neither of these differences is significant. Since the differences in other comparisons are either smaller, or of about the same order, and since the number of cases is in every such comparison smaller, it is obvious that the other differences are also insignificant.

The most nearly comparable groups involved in this study were those in the Hatch and the Beye schools, where the grades were paired throughout, and where in each case the pupils in the different types of rooms were under the

⁴Karl J. Holzinger, *Statistical Methods for Students in Education*, p. 243.

⁵*Ibid.*, p. 235.

⁶Russell L. C. Butsch, *op. cit.*, pp. 22-23.

TABLE II. Significance of the Differences Between the Percentages of Absence Due to Respiratory Illness for the Two Ventilation Types

Type of Ventilation	Percentage of Absence Due to Respiratory Illness	Probable Error	Ratio
1st Semester			
Fan-Gravity	5.28	.42	
Window-Gravity ...	4.74	.57	
Difference .....	.54	.70	.77
2nd Semester			
Window-Gravity ...	3.77	.63	
Fan-Gravity	2.98	.34	
Difference .....	.79	.71	1.11

same administration and the same nurse. An examination of the data for these schools reveals the fact that in the first semester the percentage for the window-gravity rooms was 4.13, while for the fan-gravity it was 4.51. In the second semester the percentages were 2.89 and 2.39, respectively. For the year as a whole they were 3.49 and 3.36. These differences are not statistically significant. Comparing the records for the two semesters by grade, it is found that the window-gravity rooms had the lower percentage in six cases, and the fan-gravity in six cases. It is obvious that no advantage can be found in these data for either type of ventilation.

The data for the Mann School are somewhat more difficult to interpret. During the first semester, when the school was operated on the window-gravity system, the percentage of absence due to respiratory illness was 4.81. During the second semester, when the school was operated on the fan-gravity system, the percentage was 3.02. Evidently it would not be valid simply to compare the percentages of absence for the two semesters. It is perfectly obvious from the data so far presented that in all schools there was a much higher absence rate for respiratory illness during the first semester. This was due to an epidemic of influenza just prior to the Christmas holidays. Apparently the nearest approach to a valid interpretation of the data for the Mann school would be to compare the figures for each semester with those for other schools for the same semester. In the first semester the percentage in the Mann school was 4.81, as compared with 4.74 for other window-gravity rooms, and 5.28 for the fan-gravity rooms. In the second semester the percentage was 3.02, as compared with 2.98 for the other fan-gravity rooms, and 3.77 for the window-gravity rooms. In other words, when the school used window-gravity ventilation the record was about the same as that of other window-gravity rooms, and .54 less than the fan-gravity rooms. When fan-gravity ventilation was used, the record was about the same as that of other fan-gravity rooms, and .75 less than the window-gravity rooms. Here again no definite conclusion can be drawn as to the advantage of either ventilation type.

Interpretation of the Data

Since the data of the present study appear to contradict the results of the earlier investigations, which indicated that there is less absence due to respiratory illness in rooms using window-gravity ventilation than in those using mechanical ventilation, it is desirable to examine them carefully. The most important consideration in comparing types of ventilation is, of course, to be sure that the samples selected conform to the most desirable practice for the types involved. In the study of the western suburbs of Chicago in 1927-28 the window-gravity school with the best record was that in which there was ample gravity exhaust, insured by sufficiently large aspirating coils in the exhaust ducts. In attempting to obtain more homogeneous groups of pupils for the two ventilation types in the present study, it is probable that other disturbing factors were introduced. In the first place, the fans were sometimes turned on in the rooms designated as window-gravity, especially for the purpose of bringing the heat up rapidly before school in the morning. They may not always have been turned off promptly at nine o'clock. In addition, it was discovered during the course of the study that there was no means of insuring ample exhaust from these rooms. In a number of cases, back drafts down the exhaust ducts were discovered. This situation apparently involved receiving air which had been exhausted into the attic from the fan-gravity rooms.

The most definite conclusion that seems justified by the present data is that the most ap-

proved types of split-system ventilation are not superior to window-gravity ventilation carried on under most unsatisfactory conditions, without ample exhaust, and with occasional back drafts down the exhaust ducts.

Individual Records of Absence Due to Respiratory Illness

The method of recording the data used in the present investigation makes possible a study of the criterion, "absence due to respiratory illness," from a new viewpoint. The question has been raised whether such absence will not depend more largely on the individual pupil who happens to be in the room, rather than on the type of ventilation. The assumption has always been that there will be a reasonably high correlation between the record for a certain student during one period, and the record for the same student at some other period. In the present study individual records of such absence were kept for all pupils involved. From these there were obtained for each pupil the data on the number of half days of absence due to respiratory illness for each semester. In order to discover the relationship between them, the coefficients of correlation were computed between the individual records for the two semesters, for certain groups. Since some pupils were in the same room for both semesters, and others were in two different rooms, and since some were under the same type of ventilation during both semesters, and others were under different types, the correlations were computed for each group separately. These coefficients are presented in Table III. An examination of this table indicates that in general there was no significant relationship between the individual records for the two semesters. The more different the conditions under which the pupils found themselves in the two semesters, the higher was the correlation. Thus when both the ventilation type and the room were different for the two semesters, the coefficient was .331 in one case, and .396 in another. On the other hand, when the pupils stayed in the same room and under the same type of ventilation for the two semesters, the coefficient was .125 in one case, .189 in a second, and .083 in a third. Among those pupils who changed to different rooms, but under the same type of ventilation, the coefficients were .111, and .262 in the two cases.

TABLE III. Coefficients of Correlation Between the Average Number of Half Days of Absence Due to Respiratory Illness of Individual Pupils for the Two Semesters

School	Ventilation Type		Same or Different Room	Coefficient of Correlation
	1st Semester	2nd Semester		
Hatch and Beye	F-G	F-G	Same	.125
	F-G	F-G	Different	.111
	W-G	W-G	Same	.189
	F-G	W-G	Different	.331
	W-G	F-G	Different	.274
Lowell	All	All	All	.185
	F-G	F-G	Same	.083
	F-G	F-G	Different	.262
Mann	W-G	F-G	Different	.396

Influence of Location Within the Room on Absence Due to Respiratory Illness

Certain physical factors of the condition of the schoolroom, as brought about by the various ventilation systems, have from time to time been credited with affecting the absence due to respiratory illness. The study of Shaugnessey in the northern suburbs of Chicago⁷ and the study of the writer in the western suburbs of Chicago,⁸ showed by correlations between the percentage of such absence and other factors within particular rooms, that the criterion was not affected by temperature, humidity, total air flow, air flow per pupil, or general cooling effect, within the rather wide ranges found in the rooms studied. The present investigation makes possible the discovery of the effect of location with-

in the room on such absence. The hypothesis had been advanced that pupils who sat near open windows, or near inlet or exhaust openings, or near radiators, might be more susceptible than others in the room.

In the present study a continuous record was kept showing the seat occupied by each pupil. Every absence could thus be recorded against the seat in which the absent pupil had been sitting. At the end of each semester there was obtained for each pupil station a record of the number of half days of absence due to respiratory illness, and the number of half days of possible attendance of pupils using such seat. The data presented in the following discussion include only those rooms for which data could be combined because of similarity of shape and seating arrangement. Usually within a particular school the arrangement of the rooms is practically identical.

In addition to the absence records, measurements of physical conditions within the room were recorded. These were: air movement at the exhaust; temperature at desk level and at floor level at seven or eight points in the room; and kata-thermometer readings at the same points. These points were chosen in such a way as to obtain records as nearly as possible at places which might be expected to be particularly influenced by radiators, open windows, or ventilation openings.

Rates of Absence Due to Respiratory Illness by Rows

For each row in each room there was computed the average number of half days of absence due to respiratory illness per pupil. Within each school or ventilation type within the school, these data for the various rooms were combined. There resulted a number which represented the average number of half days of absence due to respiratory illness of all pupils seated in the row next to the window; in the row next to the wall; and likewise for every other row. All rooms were treated as though they had five rows or less, additional rows in the center being combined. Table IV presents these data for the year for the schools which had both types of ventilation. In the first column there is indicated the name of the school, and in the succeeding columns the first row on the left, the second row on the left, the center row, second row on the right, and first row on the right. In every case the left is the window side of the room, and the right the side next to the wall and the ventilation openings.

One very consistent trend is indicated in the data for the window-gravity rooms. In the case of each of the schools separately, and all of the schools taken together, the lowest rates are found in the two outside rows, next to the windows and next to the inside wall; the next lowest in the second rows from each side; and the highest rates in the center row. The same trend is found in the data for the individual semesters. In the case of the fan-gravity rooms the same trend is not found. In that case, the only consistent condition seems to be that the lowest rates are found in the center row and in the row next to the wall. However, this is not entirely consistent for the records for the individual semesters. It is not apparent from any of the data available in this study why the center row should be the most unhealthful in the window-gravity rooms, and why it should be the most healthful in the fan-gravity rooms. All of the factors involved in heating and ventilating the rooms are on the two sides, and should logically be expected to influence the two outside rooms adversely, if they have any undesirable influence at all.

Rates of Absence Due to Respiratory Illness by Horizontal Sections in the Rooms

The rooms were next divided into three horizontal sections, namely, front, center, and rear,

⁷Unpublished material.

⁸Russell L. C. Butsch, *op. cit.*, pp. 208-17.

TABLE IV. Average Number of Half Days of Absence Due to Respiratory Illness per Pupil in the Various Rows, for the Year, by Ventilation Types

School	Left-1	Left-2	Center	Right-2	Right-1
	Window-Gravity Rooms				
Hatch	3.79	4.80	5.85	4.73	3.90
Beye	3.53	4.18	5.32	5.07	4.09
Mann	3.40	5.03	6.46	4.84	3.28
Average ..	3.64	4.68	5.94	4.84	3.84
	Fan-Gravity Rooms				
Hatch	3.72	4.57	3.27	3.84	3.35
Beye	3.67	4.23	4.00	4.03	3.70
Mann	3.34	3.92	2.36	4.79	2.70
Average ..	4.01	4.29	3.16	4.11	3.37

and the data on the average number of half days of absence due to respiratory illness per pupil in the three sections were computed for two of the schools which had the two types of ventilation. The data for these three sections are presented in Table V. An examination of this table reveals the fact that in every case the center section has a lower rate of such absences than either of the other sections. In the window-gravity rooms the rear section has the highest absence rate, while in the fan-gravity rooms the front section has the highest rate. The rates for the individual semesters did not, however, agree consistently with the rates for the year.

TABLE V. Average Number of Half Days of Absence Due to Respiratory Illness per Pupil in the Three Horizontal Sections of the Rooms

School	Type	Front	Center	Rear
Hatch	W-G	4.35	3.68	5.08
	F-G	4.21	3.16	4.09
Beye	W-G	4.38	3.23	5.31
	F-G	4.00	3.49	3.96

Rates of Absence Due to Respiratory Illness in Smaller Sections of the Rooms

The third division of the rooms to be studied was a combination of the other two. Each room was divided into fifteen sections, made up of the three horizontal sections of each of the five vertical rows. The data for the two ventilation types in the Hatch and the Beye schools are presented in Table VI, for the year. These data indicate only that there was a great deal of variation in the records for the different sections of the rooms. No general trend is apparent in the comparison of the two sets of data for either ventilation type. A more important question in this connection is that of the contrast in the records for the same section for the two semesters. When the tables for the separate semesters are compared, it is seen that there are many discrepancies. A section which has an exceptionally high rate in one semester may have a high rate, a moderate rate, or a low rate in the other semester. In order to discover just what the relationship was, the coefficient of correlation was computed between the records for the two semesters for each of the fifteen sections, and for the four groups of rooms included in Table

TABLE VI. Average Number of Half Days of Absence Due to Respiratory Illness per Pupil for the Fifteen Sections, for the Year

School	Ventilation Type	Horizontal Section	Row				
			L-1	L-2	C	R-2	R-1
Hatch	W-G	Front	4.02	4.46	8.55	2.68	4.72
		Center	3.67	4.00	3.90	4.62	2.14
		Rear	4.72	4.46	7.73	4.88	5.07
	F-G	Front	5.00	5.48	1.18	4.52	3.48
		Center	3.89	2.32	4.07	2.36	3.57
		Rear	3.00	5.55	4.25	4.50	3.09
Beye	W-G	Front	4.20	3.31	2.58	6.33	5.12
		Center	1.67	4.92	4.75	1.54	4.08
		Rear	4.27	5.13	8.00	6.87	3.31
	F-G	Front	6.67	2.82	3.00	2.78	4.41
		Center	2.12	3.35	2.80	4.94	3.77
		Rear	4.53	5.29	7.80	2.89	2.00

VI. Between the sixty pairs of items the correlation was found to be .011. This indicates conclu-

(Concluded on Page 133)

Regular Teacher Salary Schedules Maintained

With the annual preparation of school budgets for 1931-32, interest has been centered upon the question of teachers' salaries. Would boards of education hold to the regular schedules, or was there a disposition to engage in reductions? Many of the boards adopt their budgets in the spring months, while in many others budgets are not formulated until July or later.

The National Education Association engaged in a survey to ascertain the trend and status of the teacher salary question. While the survey is not complete, the association presents reports from 341 cities, covering 32 states. The report includes the following states: Connecticut, 14 cities; Illinois, 22; Massachusetts, 38; Minnesota, 11; New Jersey, 21; New York, 69; Ohio, 81; Pennsylvania, 48; Virginia, 9; Wisconsin, 12 cities.

In every instance the returns show that for 1931-32 the regular salary schedules will be maintained. It develops also that in most cities there has been no suggestion of cutting salaries. This is particularly true of the larger cities throughout the country. While some of the smaller communities have engaged in reductions, others small and medium sized have made salary increases.

Alabama: Alabama City, Attalla, Ozark.

Arizona: Glendale, Miami, Morenci, Prescott, Yuma.

California: Bakersfield, Berkeley, Chico, Glendale, Hollister, Inglewood, Lodi, National City, Needles, Oakland, Oxnard, Palo Alto, Red Bluff, San Bernardino, San Jose, Santa Clara, South Pasadena, Visalia.

Colorado: Brighton, Denver.

Connecticut: Darien, East Haven, Griswold, Middletown, Milford, New Milford, Norwalk, Seymour, Simsbury, Terryville, Thompsonville, Warehouse Point, Wethersfield, Willimantic.

Danielson: New Britain, Shelton, Thompson, Torrington.

District of Columbia: Washington.

Florida: Pensacola.

Georgia: Columbus, Macon, Rome, Savannah.

Idaho: Boise.

Illinois: Aurora, Bloomington, Champaign, Decatur, East St. Louis, Eldorado, Elgin, Elmhurst, Fairbury, Maywood, Naperville, Oak Park, Oglesby, Pekin, Peoria, Quincy, Rockford, Staunton, Waukegan, Wheaton, Woodstock.

Chicago Heights: Hinsdale, Jacksonville, Mendota, Mounds, Pontiac, River Forest, Springfield, Sycamore, Winnetka.

Indiana: Angola, Auburn, Huntingburg, North Vernon, Richmond, Whiting.

Crawfordsville: Evansville, Lafayette, Rensselaer, Wabash.

Iowa: Decorah, Dubuque, Mason City, Ottumwa, Pella, Waterloo.

Cherokee: Clinton, Cresco, Davenport, Sioux City, Vinton, Waverly.

Kansas: Abilene, Emporia, McPherson, Topeka.

Kentucky: Covington, Franklin, Mayfield, Newport, Pineville.

Georgetown: Lexington, Russellville.

Maine: Bangor, Brewer, Fort Fairfield, Rockland, Saco, Sanford, South Paris, Westbrook.

Maryland: Baltimore, Cumberland, Easton, Westminster.

Massachusetts: Agawam, Ayer, Beverly, Bridgewater, Clinton, Dalton, Easthampton, East Longmeadow, Grand Rapids, Greenfield, Hanover, Holden, Hyannis, Ipswich, Leominster, Littleton, Longmeadow, Lowell, Ludlow, Lynn, Marblehead, Marlboro, Medfield, Milton, Monson, Newton, North Adams, Northampton, Peabody, Plymouth, Quincy, Revere, Rockland, Southbridge, Spencer, Stoughton, Templeton, Webster, Wellesley, Weymouth, Whitman, Winthrop.

Belmont: Chicopee, Fairhaven, Falmouth, Granby, Lexington, Malden, Pittsfield, Saugus, South Hadley, Springfield, Walpole, Watertown, Westboro, Westfield, Winchester.

Michigan: Ann Arbor, Calumet, Cheboygan, Grand Rapids, Hastings, Marshall, Menominee, Midland, South Haven.

Escanaba: Iron Mountain, Muskegon Heights.

Minnesota: Columbia Heights, Faribault, Fergus Falls, Hopkins, Moorhead, Red Wing, Rochester, St. Cloud, St. James, St. Paul, Worthington.

Little Falls: St. Paul.

Mississippi: Greenville, Laurel.

Missouri: Liberty, Macon, Mexico, Neosho, St. Louis, Sedalia, University City, West Plains.

Maryville:

Montana: Billings, Deer Lodge, Dillon, Kalispell.

Nebraska: Alliance, Columbus, Lincoln.

New Hampshire: Franklin, Keene, Laconia, Nashua, Newport, Peterboro, Somersworth, Walpole.

New Jersey: Bayonne, Bordentown, Clifton, East Newark, Hightstown, Jersey City, Lambertville, Long Branch, Metuchen, Montclair, Passaic, Paterson, Perth Amboy, Red Bank, Ridgewood, Roselle, Secaucus, Somerville, South Amboy, Union City, Woodbury.

Asbury Park: Bound Brook, Madison, Ocean City, Vineland.

New Mexico: Albuquerque, Deming.

New York: Albion, Amityville, Babylon, Beacon, Canandaigua, Canton, Carthage, Catskill, Clyde, Corinth, Corning, Cortland, Dobbs Ferry, Elmira Heights, Endicott, Dunkirk, Fairport, Ft. Edward, Frankfort, Glen Cove, Glens Falls, Goshen, Granville, Hempstead, Herkimer, Highland Falls, Hosick Falls, Hornell, Hudson, Hudson Falls, Jamestown, Kingston, Lackawanna, Lancaster, Lawrence, Little Falls, Lynbrook, Middletown, Mohawk, Mount Morris, Newark, N. Tarrytown, N. Tonawanda, Norwich, Ogdensburg, Oneonta, Owego, Penn Yan, Plattsburgh, Port Jervis, Poughkeepsie, Rye, Salamanca, Saranac Lake, Saratoga Springs, Scarsdale, Sidney, Southampton, Syracuse, Tupper Lake, Walden, Walton, Wappingers Falls, Warsaw, Waterford, Waterloo, Watertown, Wellsfield, Westfield.

Albany: Fort Plain, Freeport, Gouverneur, Hastings-on-Hudson, Ithaca, Johnson City, Le Roy, Lyons, Mechanicville, Newburgh, New York City, Patchogue, Scotia, Solvay, Buffalo.

North Dakota: Bismarck, Valley City, Wahpeton, Williston.

Ohio: Chillicothe, Crooksville, Hamilton, Mingo Junction, Nelsonville, Norwalk, Norwood, Oberlin, Bryan, Springfield.

Oklahoma: Cleveland, Miami, Purcell, Tulsa.

Oregon: Albany, Baker, Eugene, Hood River, La Grande.

Pennsylvania: Allentown, Ambridge, Bloomsburg, Braddock, Burnham, Butler, Chester, Clairton, Columbia, Coplay, Du Bois, Dunmore, East Stroudsburg, Farrell, Ford City, Forest City, Franklin Bor., Gettysburg, Grove City, Hazleton, Ingram, Johnstown, Kingston, Kutztown, Lancaster, Mahanoy City, Mauch Chunk, Millersburg, Minersville, Mt. Carmel, Mt. Pleasant, Nanticoke, New Brighton, Old Forge, Philadelphia, Pottsville, Pittsburgh, Plymouth, Rankin, Ridgway, St. Mary's, Sharpsville, Susquehanna, Washington, Waynesboro, Williamsport, Windber Bor., York.

Arnold: Brackenridge, Carlisle, Conemaugh, Curwensville, Duquesne, Latrobe, McKeesport, Nazareth, Port Carbon, Pottsville, Prospect Park, Reading, Shenandoah, Southwest Greensburg, Spring City, Tyrone, West Chester, Wilmerding.

Rhode Island: Central Falls, East Greenwich, Providence, Warren, Warwick, Woonsocket.

Barrington: Wakefield.

South Carolina: Charleston, Spartansburg.

South Dakota: Lead.

Tennessee: Bristol.

Texas: Bay City, Beaumont, Dalhart, Galveston, Longview, Navasota, New Braunfels, Pittsburg, Port Arthur, Texarkana, Uvalde, Waco, Weatherford.

Vermont: Burlington, Greensboro, Randolph, Rutland.

Virginia: Charlottesville, Hampton, Lynchburg, Newport News, Norfolk, Petersburg, Phoebus, Staunton, Suffolk.

Bristol:

Washington: Anacortes, Bellingham.

West Virginia: Piedmont, Weston.

Wisconsin: Beloit, Edgerton, Chippewa Falls, Madison, Marinette, Milwaukee, Oconomowoc, Platteville, Stevens Point, Superior, Washburn, Waupun.

Kenosha: Neenah, Stoughton.

Wyoming: Laramie, Rock Springs.

Interest Rates Fall Again¹

Harold F. Clark, Ph. D., New York

For the third consecutive month school-bond interest rates have declined. Such interest rates have now reached a level well below anything known since the war. In fact, we must go back some considerable time before the war to find interest rates at the present level. On all school bonds sold during the month of May the net interest rates was 4.05 per cent. This compares with a rate of 4.08 per cent during the month of April. As will be readily noticed the rate of decline has been slowing up, but this is more or less inevitable as lower and lower rates are reached.

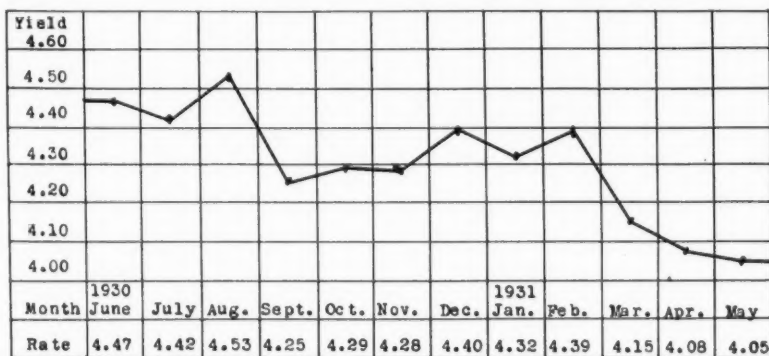


TABLE I. AVERAGE PRICE OF ALL SCHOOL BONDS SOLD DURING THE MONTH

As has been emphasized for some time, 4 per cent may well be considered the crucial point on our bond index. Below that point interest rates are low even by any long-term standard. Barring the development of some unforeseen elements, there is every reason to expect our bond index to cross the 4 per cent net rate sometime before the end of the year. Whether the general course of bond prices will be such that our index will fall much below this point depends upon a great many factors. Perhaps no one of these factors is more important than the return of confidence in general business. As one financial authority expressed the matter—people who have money are disinclined to take any risks at the present time. Safety seems to be the all-controlling factor. This is shown very clearly by the course of the bond market during recent weeks. At a time when railroad bonds, many of them of good standing and all of the second-grade bonds, have been sinking drastically, first-grade government bonds have been rising. The demand has been much better for the very highest grade municipal bond than for second-grade bonds, even in this field. This is partly due, of course, to the desire to employ money during a relatively short period and then to be able to realize on it at any time it is needed.

TABLE II. Amount and Yield of Bond Issues

- School bonds during the month¹ of May.....\$ 11,780,000
- All municipal securities sold during the year (to date)..... 725,000,000
- All school bonds outstanding (estimated)..... 2,268,000,000
- Average yield of all school bonds outstanding (estimated)..... 4.62%
- Yield of school bonds of ten large cities..... 4.13%
- Yield of United States long-term bonds..... 3.12%

(Quotation the middle of June)

¹The monthly total of school bonds does not include all the bonds issued in the month, due to the difficulty of obtaining the yield on some of the issues.

General money rates will remain at extremely low levels, time money being quoted at 1 per cent day after day and the buying rate on certain types of short-term acceptances has actually been quoted below 1 per cent. When money on even the best of security for even short periods of time can be borrowed at the amazing rate of 1 per cent per annum, interest rates may be definitely considered to be low. These phenomenally low rates have led to a large amount of financing on the part of municipal bodies. In fact during the first five months of the current year, municipal bond sales have been very considerably higher than at any other period in our

history. Estimates of total municipal bond sales for the first five months have reached the amazing total of \$725,000,000. This compares with a previous high mark of about \$675,000,000 established some years ago.

The bond market will have to absorb some very large issues of the Federal Government and this, of course, may tend to influence adversely at least temporarily, the price being paid for municipals. There are, without doubt, however, large sums of money seeking the relative safety of the bond market and even with large Federal loans in prospect there is every

reason to anticipate continued favorable prices in the municipal field. The very best grade of state and municipal bonds are selling to yield between 3 and 3.50 per cent in many cases. In exceptional situations the yield is down toward 3 per cent. With rates such as these possible even in favorable situations, school boards need no longer hesitate regarding bond issues.

TABLE III. Bond Sales and Rates¹

Year	School	Municipal	All Public and Private	Year	Municipal
1929	230*	1,432*	10,194*	1929	4.67*
1928	218	1,414	8,050	1928	4.45
1927	266	1,509	7,776	1927	4.49
1926	260	1,365	6,344	1926	4.61
1925	323	1,399	6,223	1925	4.58
1924	288	1,398	5,593	1924	4.26
1923	206	1,063	4,303	1923	4.76
1922	237	1,101	4,313	1922	4.81
1921	215	1,208	3,576	1921	5.18
1920	130	683	3,634	1920	5.12
1919	103	691	3,588	1919	5.04
1918	41	296	14,368	1918	4.90
1917	60	451	9,984	1917	4.58
1916	70	457	5,032	1916	4.18
1915	81	498	5,275	1915	4.58
1914	42	320	2,400	1914	4.38

¹By special permission based upon sales reported by the Commercial and Financial Chronicle.

*Not final.

We would not attempt to say that school interest rates would not go to even lower levels—as a matter of fact, we think they will. Even now rates are at a fairly satisfactory level and no superintendent or school board should have any hesitation in asking his community to pay the rates at which bonds can be sold at this time. This does not mean, of course, that every possible care should not be used in the sale of bonds. It is still possible to sell bonds at very disadvantageous rates as many communities are illustrating every month. We still find bonds being sold at net interest rates of around 6 per cent. In fact one issue in particular sold at a net interest rate of 5.99 per cent should

TABLE IV. Average Yield of Long-Term Federal Government Bonds¹

Month	Rate	Year	Rate %
1931		1930	3.397
June	3.36*	1929	3.644
May	3.37*	1928	3.347
April	3.39	1927	3.464
Mar.	3.39	1926	3.544
Feb.	3.40	1925	3.797
Jan.	3.33	1924	4.010
1930		1923	4.298
Dec.	3.34	1922	4.301
Nov.	3.32		
Oct.	3.34		
Sept.	3.37		
Aug.	3.38		
July	3.37		

¹Taken from Federal Reserve Bulletin.

*Not final.

have drawn a much better price. If a school superintendent and a school board use sufficient care in advertising and marketing their bonds, there is no reason why a thoroughly satisfactory price should not be obtained.

As suggested last month for the school district that is still hesitating about issuing bonds in the hope of obtaining even better rates, there is the alternative of short-term notes. Money can be borrowed for a short period and then refunded into long-term bonds. This procedure, of course, is limited to those states where such action is legal. Where there is high-class financial advice available such procedure has much to commend it as it makes possible far more flexible financing than the situation where long-term bonds only can be sold.

Table IV shows that long-term Federal bonds show some tendency toward lower interest rates in recent months. However, the figures as given by the Federal Reserve Bulletin did not indicate any very sharp fall over a longer period of time.

TABLE V. Security Prices and Yields¹

Date	Average Price of 404 Stocks (1926 Average = 100)	Average of 60 Bonds	Average Yield of 60 High-Grade Bonds
1931			
June	91.2*	99.8	4.42
May	100.5*	99.7	4.42
Apr.	109.2	99.6	4.43
Mar.	121.6	100.0	4.41
Feb.	119.8	99.4	4.44
Jan.	112.3	99.6	4.43
1930			
Dec.	109.4	97.8	4.55
Nov.	116.7	99.1	4.46
Oct.	127.6	100.0	4.41
Sept.	148.8	100.0	4.41
Aug.	147.6	99.6	4.43
July	149.3	98.7	4.49

¹As reported by Standard Statistics Company, Inc. Used by special permission.

*Not final.

Table V shows that the drastic decline in stock prices continues. This decline has reached the point where very large sums of money are being diverted into the bond market. This shows to only a limited extent the prices and yields in Table V because of the movements of different classes of bonds. Government and high-grade municipal bonds have been moving up in price, whereas many other bonds have been moving down.

TABLE VI. Revised Index Number of Wholesale Price (United States Bureau of Labor Statistics. 1926 = 100)

Month	All Com- modities	Building Materials	Year	All com- modities	Building Materials
1931			1930	86.3	90.3
June	72.8*	80.4*	1929	96.5	104.0
May	73.0*	80.7*	1928	97.7	93.7
Apr.	73.3	80.9	1927	95.4	93.3
Mar.	74.5	81.9	1926	100.0	100.0
Feb.	75.5	81.8	1925	103.5	101.7
Jan.	77.0	82.9	1924	98.1	102.3
1930			1923	100.6	108.7
Dec.	78.4	84.4			
Nov.	80.4	85.6			
Oct.	82.6	85.8			
Sept.	84.2	86.4			
Aug.	84.0	87.4			
July	84.0	88.9			

*Not final.

Table VI shows that the decline in commodity prices still continues. This applies not only to all commodities but to building materials as well.

SCHOOL-BOND SALES IN 1931

The research department of THE AMERICAN SCHOOL BOARD JOURNAL has established the fact that school-bond sales for the first five months of 1931 are over \$5,000,000 above the total for the same period in the past three years. Of the five months, however, February, April, and May sales fell considerably below average, while January and March were way above normal. The sale of school bonds by states ran along on a fairly even keel. New Jersey, with an issue of \$2,558,000, showed its greatest sales since January, 1930. Ohio, after surpassing the \$1,000,000 mark in each of the first four months of 1931, fell off to \$65,000. Pennsylvania passed the \$2,500,000 mark for the second time this year. Wisconsin school-bond sales missed fire completely for the first time since April, 1930. Canada, after a \$7,000,000 sale in April, registered no sale in May.

THE AMERICAN School Board Journal

EDITORS:



WM. GEO. BRUCE

WM. C. BRUCE

Superintendency Exits and Entrances

THE exit as well as the entrance of a school superintendent is an event in the life of a community which excites more than ordinary interest. The office is a matter of public concern, and the board of education performs no duty which affects more vitally the school system than it does the selection of a superintendent. That statement is generally conceded.

The greater interest, however, attaches to the exits. Whether the superintendent departs because he wants to, or because of a difference between himself and the board of education, there are manifestations of sincere regret. The school official has his admirers and friends who hate to see him go.

The situation assumes a more intense character where the friends and admirers throw themselves into the conflict which has arisen between superintendent and board. The latter has decided that the former must go. A fraction of the citizenship objects. The friends and admirers come forward and demand his retention. Protest resolutions are adopted. A public hearing is urged. The press is on the job.

And right here arises an interesting question. On the assumption that the professional prestige of the superintendent is to be protected, that he has a future which must not be marred, that other fields of service are open to him, it follows, too, that public discussion may prove harmful rather than beneficial.

If differences as to policies and procedure have arisen between a school superintendent and a board of education whereby the former suffers elimination it does not follow that his professional career is ended. A better opportunity may await him elsewhere. The experience in one school system may serve him well in the next.

The issue here is whether friends and admirers may not carry their zeal to a harmful length. A case in point is afforded at South Bend, Indiana, where Supt. W. W. Borden, an educator of high standing, tendered his resignation. The board of education, after he had in successive three-year terms, served a period of twelve years, offered a one-year term. Mr. Borden sensed a reflection in this action upon his record, hence his resignation.

His friends demanded the inside story. The differences which existed between board and superintendent must be aired. Thus far Mr. Borden had manifested no hostility. Men may have honest differences and go parting ways. But the friends were unconsciously heading for a school row that would benefit no one and do the principal figure much harm.

A newspaper then entered the breach. The editor discussed the situation judiciously and sensibly:

"If the school board is to be required to give a detailed history of all events leading up to the conclusion the demand for that history, to be published in *The News-Times*, should come from Mr. Borden. If the demand is made for him by his friends they should be certain that he approves it.

"*The News-Times* desires to be fair to Mr. Borden on the basis of the known best of his record in the hope that he will be recognized for his good qualities in another city. It also desires to be fair to the board and not heckle or dragoon it into actions or utterances that might be construed as unfavorable to Mr. Borden.

"After studying the case, *The News-Times* took the view that Mr. Borden needed no vindication for purposes of consideration elsewhere. The board offered to reemploy him; he felt that he could not accept the conditions and resigned. That left him in the strong situation he desired for his future. The official record was clear. If the petitioners are refused, they should consider whether it is better to have their will or not. We do not know. We do know, however, that whenever the name of a public officer is buffeted about in such a discussion it in-

evitably is in danger. When the thing is thrown open enemies as well as friends get a hearing. Those who desire to help Mr. Borden should be sure to consult him, as they are dealing with his affairs."

This sets forth the equities involved in a situation of this kind. While the school interests of the community figure first and foremost in any controversy, it remains, too, that other interests cannot be ignored. The man who has dedicated his life to the cause of education is entitled to the respectful consideration of those who avail themselves of his services. His professional standing is an asset which must not be impaired. His friends and admirers should be the first to recognize that fact.

Tale of Two School Cities—New York and Chicago

THE two cities in the United States, New York and Chicago, because of their tremendous population, together with their economic, political, and social importance, constantly command the interest of an entire country. They typify American enterprise, energy, and constructive ability in a large and eloquent way. A score of great newspapers tell the rest of the world each day what goes on in these two leading cities.

Those identified with the cause of popular education throughout the nation keep an eye upon the two cities and note more particularly what is done in the field of school administration. And here it is found that no two cities could be more dissimilar as to the mode and manner of handling school affairs. The one has moved along with a steady gait, the other was erratic and uncertain. The one is reasonably free from political domination, the other has been engulfed up to its neck in political intrigue and manipulation.

When Mayor James Walker, of New York City, entered upon his office he said: "Hands off the schools!" and then kept his word. The school system of New York City has its critics, but Mayor Walker says: "That man is an enemy of the municipality and the peace and security of the home who attacks the confidence that you justly and honestly have in the great public-school system of the city of New York. If there must be critics, let there be critics. If they must criticize somebody, let them pick me out and leave the board of education alone."

The New York City board of education has reflected its president, George J. Ryan, for the tenth consecutive term. Its personnel has remained substantially intact during that period. The continuity of service of the board and its executive officers has made for harmony, stability, and efficiency. The superintendent of schools, Dr. William J. O'Shea, and professional associates are given the widest possible latitude in administering a monster school system. The board of education has supported them in every innovation and departure making for the orderly and successful operation of the schools.

"Chicago is the nucleus of the atom around which the electrons of education revolve," recently said Willis A. Sutton, president of the National Education Association. "Practically all the atoms in America feel the power of the Chicago field. The position of the Chicago teacher during the next ten years determines the future history of your city. Chicago is our greatest American city, and she must assume her rightful place in education."

Simultaneously with these encouraging and inspiring words uttered by an educational leader, comes the disturbing statement that Chicago spends nearly \$100,000,000 a year in operating its public-school system for its 530,000 pupils, and that too many of its school buildings are "antiquated, insanitary, and overcrowded."

When William Hale Thompson, of Chicago, became a candidate for the mayoralty, his slogan implied a raid upon the schools. He charged that Superintendent McAndrew was in league with King George of England and that the school textbooks were badly tainted with pro-British propaganda.

The members of the Chicago board of education were, upon their appointment, pledged to remove McAndrew. Subsequent history developed that the charges were without basis. But, McAndrew's official head went into the basket. He became a martyr to the cause of education. During the past ten years boards of education have come and gone with great frequency. Some citizen would pop into prominence as president of a stormy board of education and then suddenly drop into oblivion again.

The wonder is that the morale of the Chicago schools did not break down under the strain, that the professional workers adhered so bravely to the task in hand, and that the prestige of the Chicago school system, as such, was maintained. William J. Bogan was called to the helm during the stormiest period, and has since steered the ship with a steady eye and a safe hand.

The example set by Mayor Walker may well be followed by Mayor Cermak. Elevate the highest type of citizenship to board-of-education honors, and then keep hands off the schools. The citizenship of Chicago stands as high culturally and morally as does the citizenship of New York City. The administration of its schools can be placed upon an equally acceptable and efficient basis. Put the best citizens in charge and let them run the schools.

The Quality Factor in the Purchase of School Supplies

IN TIMES of emergency there is a tendency to depart from the middle of the road course, and to guide the steering wheel with a somewhat nervous hand. The cry of retrenchment prompts budget paring and the lopping off of what might be deemed unnecessary expenditures. Such paring and lopping off is likely to be attended with a haste that results in false economy and an impairment of true efficiency.

The practice of sound economy is always in order. In fact, efficiency in its best interpretation implies economy. The cry of retrenchment is never timely unless it seeks to check extravagance. It is entirely out of order when it tends to penuriousness and to false economy.

The school authorities of this country purchase annually large quantities of supplies, equipment, and paraphernalia in order to carry on the operation of the schools. The market offers a great variety of material which differs both in price and quality. The low price mark attracts the purchaser. Mere cheapness is apt to carry the day.

The experienced purchaser knows that mere cheapness does not necessarily mean economy. In fact, he knows that it is likely to mean extravagance and waste. It has been brought to our attention that efforts are being made in various sections of the country to foist inferior materials upon the schools. The inexperienced buyer may be led into unwise bargains. The discriminating school official cannot be so misled.

The school-supply business of the United States has grown into important dimensions both as to volume and quality of production. It is an industry which vitally concerns the efficient operations of the school. This implies that those who purchase school supplies must not only discourage the introduction of shoddy goods, but discourage with equal readiness the high-pressure salesman who blows in from nowhere and who represents no one who has ever been heard of.

The thought to be borne in mind is that true economy avoids penuriousness on the one hand, and extravagance on the other. It clings to merit, avoids the cheap and shoddy, selects an article for the service it will render, and pays the price that is equitable and reasonable.

The Selection of School Sites

ONE of the most difficult as well as important tasks, coming within the range of school administrative labors, relates to the selection of school sites. No task involves greater responsibility, or may in its several progressive stages, be attended with more vexatious considerations. It bears the germs of suspicion and innuendo which sometimes lead to protest meetings and an embarrassing aftermath.

There are instances where it is difficult to say whether this, that, or the other site ought to be chosen. It involves ultimate as well as immediate considerations. The trends in community growth becomes a factor. The cost consideration is ever present. The ideal spot may already be covered with buildings which makes the acquisition too expensive. Other equally desirable sites may not be on the market, or if on the market may be held at exorbitant figures.

At this point enters the problem of an open-market purchase, or acquisition by condemnation proceedings. Usually the former method wins. Legal proceedings are attended by delays without the certainty of a rock-bottom purchase price. When a fair financial consideration can be obtained, the open buy and sale method is the most satisfactory.

Experience has taught that the deliberations leading to a choice of a site should be carried on in executive sessions. The premature announce-

ment of a prospective choice has, in many instances, proved costly. The enterprising property owner who knows in advance that his particular site is favored may raise the price to a much higher figure.

Unnecessary delays, too, may prove costly. A piece of property may be purchased today at a reasonable figure. In six months it may have risen to three times its former value. A certain western city was offered a school site at a certain figure which was deemed reasonable. The offer was declined. A few months later the school authorities paid \$27,000 more than the original offer.

In the larger communities the selection of school sites is particularly difficult because of the fact that larger areas, providing spacious playgrounds, are now demanded, that much-traveled highways must be avoided, and that the cost of land on the outskirts is much higher than in former years because of modern transportation methods. In the smaller communities the land areas suited for a school site and athletic field, are more easily procured.

The construction of a much-needed schoolhouse is sometimes delayed because the citizenship has been split into a sectional partisanship on a site question. In a Pennsylvania city a million-dollar high school hung in abeyance for two years because the east siders would not permit its location on the west side.

The city of New York which builds more new schoolhouses and is therefore constantly engaged in the selection of school sites, is engaged in devising new methods of site location. It is agreed that school property "should be acquired by private purchase wherever possible and eliminate condemnation because of its excessive cost and long delays."

At a recent conference on the subject, Mayor Walker held that "the appointment of a well-known and highly qualified real estate dealer would discourage property owners who believed they would get a fancy price from the city for their holdings. The city official, he said, could negotiate directly with owners of property and could end the negotiations as soon as an excessive price was asked. Under the present system the board of education selects three sites in a wide area, leaving the final selection to the board of estimates. The city would therefore not be compelled to pay an asking price to the owner of any particular parcel. Where there is a multiplicity of owners, or where the owner is unwilling to negotiate a private purchase," the mayor said "the city would have to resort to condemnation as the only way of getting property it could not otherwise acquire."

The employment of a competent real estate man who will negotiate all purchases may prove expedient in larger centers of population. It would seem, however, that in the average-sized and smaller cities the boards of education must in matters of site selection rely upon the executive officers and committee members.

Home-Town Teacher Problem

THE industrial depression which temporarily hangs over the country is here and there reflected in the deliberations of school administrative bodies. While the unemployment evil is prevalent, it develops that community self-interest seeks the remedy by favoring home talent as against outside talent.

The school executive who has loyally and wisely adhered to the thought that merit alone must guide the choice of the professional service is meeting with opposition. Local pressure demands recognition for the home-town girl. She has prepared for the teaching profession, her parents are local taxpayers, and her friends want to see her on the list of the local teaching force.

Those who champion her cause are less concerned with the fact that she may not measure up in point of experience and professional efficiency with the girl who comes from the next town or an adjoining state. Nor do they measure the effect of an inferior service upon the school system. The school administrator whose voice dominates is placed in an embarrassing situation. And yet in a situation like this the answer must be, as it has always been, that where the home talent measures up to outside talent, home talent is entitled to the preference.

Education that teaches men merely to read, write, and figure, is not sufficient. Real education must teach men to sift the false from the true; without that education, democracy will be a mockery. — Samuel R. Ellis.

School Business Officials Carry On

Richmond Convention Highly Successful

The maturity and permanent character of the National Association of Public-School Business Officials was rather clearly demonstrated at the recent convention in Richmond, Va., May 19-22, inclusive, in the fact that the gathering was the twentieth annual meeting which the Association has held. Of the original group of five men who met in Washington at the call of the United States Commissioner of Education, four are deceased and one is retired, and of the dozen who met at the second convention, only two are still active and were present at Richmond.



W. N. DECKER
Secretary of the Board of Education, Altoona, Pennsylvania,
and President, National Association of Public-School
Business Officials, 1931-1932

In addition to having a significant program, the convention was distinguished by the fact that the Association gave expression to its determination to carry on a constructive program of research in at least three important phases of school-business administration. In the program, in the informal discussions of current problems, and in the hotel-lobby groups there were frequent evidences that the schools are carrying on quietly and efficiently the business of public education and are only affected in a comparatively minor way by the current business depression. It was most reassuring to hear expressions from various business managers that, despite difficulties, the policies and methods of school-business administration are being conducted entirely for the educational efficiency of the schools. The planning and construction of building, the purchase of equipment and supplies, the financing and budgeting programs, the selection and employment of teachers, and supervisory officers—all are being advanced with a minimum regard for immediate expediency and a maximum attention to high educational standards and service.

President Barr provided a well-balanced program, but was a bit unfortunate in the fact that four important speakers were kept at home by serious illness. The Richmond hospitality was delightful, the weather was excellent, the attendance was above the average.

The Opening Session

The convention was welcomed by Hon. John Garland Pollard, governor of Virginia, who, in pointing out the progress which education has made in the state, urged that the child must ever

be the center of administrative effort. In the official response, Mr. John B. Wynkoop, of Bridgeport, Conn., ably reviewed the history and ideals of the association.

In his presidential address, Mr. Charles Lee Barr, St. Louis, argued that the assembled business officials of school systems are not interested merely to dispatch school business more efficiently and economically; their purpose is to have at their command and to use facts, principles, and techniques which will enable school boards and superintendents to carry on the educational work of the schools more efficiently and generously. The entire work of erecting and operating buildings, financing school systems, purchasing equipment and supplies, and accounting are predicated on better educational service.

Administration of Supplies

A comprehensive paper on "The Why and How of a Semi-Standard Supply List," read by Mr. Russell W. Hibbert, opened the afternoon session, and led to a wide discussion of the basic principles of making supply budgets, of preparing allotment lists, and of setting up machinery of distribution and accounting.

St. Louis purchases supplies and equipment on an annual competitive basis. As explained by Mr. Hibbert, the planning, estimating, sampling, awarding of contracts, placing of orders, handling of supplies, and accounting entails an enormous amount of work which can be carried on economically only by carefully standardizing the articles bought and systematizing the routine. St. Louis has what is spoken of locally as a semi-standard supply list, which includes some 1,800 individual items ranging from pins to museum specimens.

The primary purpose of standardizing supplies and equipment in St. Louis is to provide materials which are best suited to the instructional purposes and methods of the schools. The list is considered closed in that purchases are confined to items carefully chosen by committees of the strongest teachers and executive officers of the schools. The second purpose of standard supplies is naturally the financial saving which results from purchasing in large quantities on a directly competitive basis. Financial economies also result from reduced clerical work and handling. Smaller stocks may be carried of standard goods, which reduces the cost of inventorying, etc.

From the standpoint of total value, about one half of the supplies and equipment purchased by St. Louis are stocked in the warehouse, and the balance are delivered directly to the schools.

The entire selection of supplies and equipment in St. Louis is handled from the instructional standpoint. Mr. Hibbert, as director, is a member of the superintendent's executive staff. The supply commissioner, Mr. Brown, works in close coöperation with the director of supplies and develops his purchase specifications, etc., with the approval of the instructional authorities.

The discussion of Mr. Hibbert's paper brought out very interesting variations in the practice of the larger cities. Mr. W. E. Record, of Los Angeles, made clear that the quotas in his city are based entirely upon cost. The board of education definitely sets the amount of money allotted for various instructional supplies and each teacher must keep within this allotment. Mr. Samuel Gaiser, of Newark, N. J., showed that Newark allots supplies and equipment on a per-capita-cost basis, which is revised annually on a basis of three years' averages.

Mr. G. F. Womrath, of Minneapolis, rather neatly closed the discussion by calling attention to the fact that any scheme of supplies and equipment must be constantly checked and adjusted according to three variable factors: (1) the amount of supplies must be sufficient for the work to be carried on. (2) The cost must not exceed the abilities of the community to pay. (3) The educational results must warrant the continued expenditures.

The Round Tables

Of all the educational conventions which meet in the United States the National Association of Public-School Business Officials has the sole



JOSEPH MILLER, JR.
Secretary of the Board of Education, New York City,
and First Vice-President, National Association of
Public-School Business Officials

distinction of freely discussing the unsolved problems of its members, of openly criticizing materials and equipment which has been purchased and used, and of frankly admitting failures in building construction, budget procedures, accounting methods, etc.

The round tables on Tuesday evening devoted to building problems and to small-city administration, were of the most useful, constructive type because the criticisms invariably suggested acceptable methods to use in avoiding the admitted mistakes and failures.

The Wednesday Program

The convention on Wednesday morning listened to an inspiring address by Dr. William John Cooper, United States Commissioner of Education, who pointed out a number of disturbing factors in American education that make the school system "A House Divided Against Itself." Dr. Cooper explained that in school finance there are troublesome antagonisms due to the independent method of handling state and local school funds. The schools do not always properly anticipate their needs, and extremely bad situations have been developed in cities where there has been a lack of appreciation of the growing cost of the expanding program of education, and where the financing of the schools has not been carried on as an integral part of the entire problem of public finance. There are similar divisions in the educational house in the relations of state and local school-administrative authorities; there are antagonisms between the lay school boards and the professional executives; and finally, there is an extremely dangerous class consciousness

(Continued on Page 68)

WHAT EVERY SCHOOL MAN SHOULD KNOW ABOUT DAYLIGHTING

EFFECT OF WINDOW WIDTH ON DESKS AT REAR OF ROOM

A Fenestra steel window can be supplied in a height and width to afford a daylighting value of 10 foot candles on a desk 20 feet away from the windowwall — Curve A in chart, at right. This is the minimum amount of daylight recommended for school rooms by many lighting authorities.

Reduce the width of this window $\frac{1}{2}$, and the amount of light at the desk is reduced to only about $4\frac{1}{2}$ foot candles, or $\frac{3}{8}$ the minimum light requirement — Curve B. And a reduction in window width to $\frac{1}{4}$ the original size affords approximately only 2 foot candles, or $\frac{1}{5}$ the minimum light desired — Curve C.

Stated another way, an increase of window width results in an even greater increase in the amount of daylight at the back of the room: adding 100% to window width adds 125% to the minimum illumination; and adding 300% to window width adds 400% to the light.

Recommendation: Check the widths of the windows in your school plans, to insure that the illumination at the back of each room is ample — not below the minimum requirement, due to narrow window dimensions.

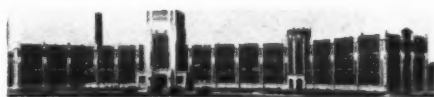
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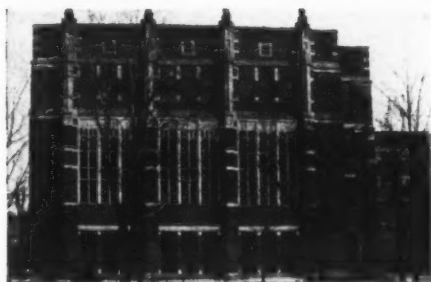
Montgomery High School,
Montgomery, Ala.
Arch: Frederick Ausfeld



Harvard University, Cambridge, Mass.
Architects: Coolidge, Shepley, Bulfinch &
Abbott, Boston.



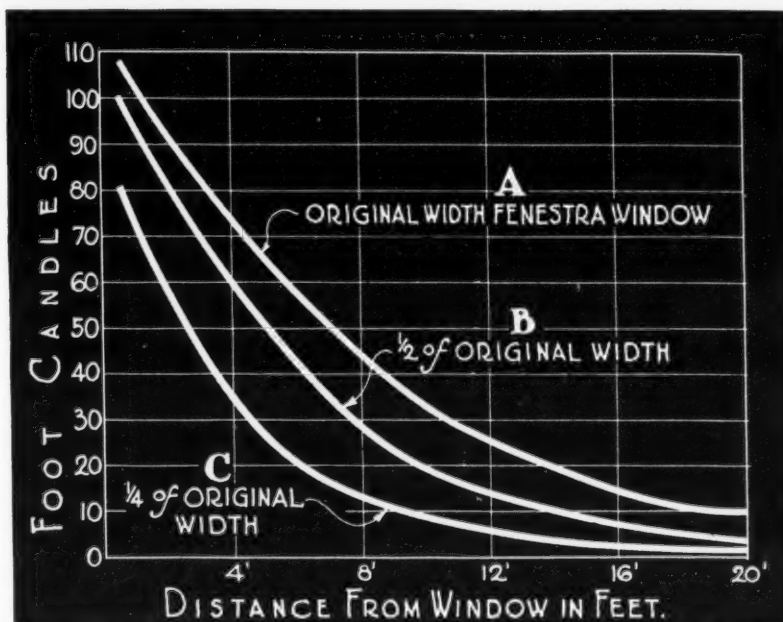
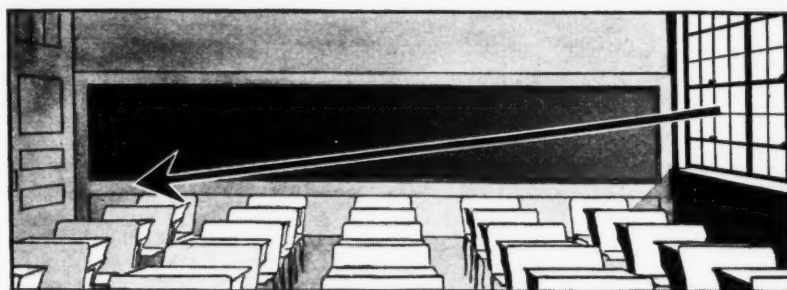
Canajoharie High School,
Canajoharie, N. Y.
Arch: Kinne & Frank, Utica



University of Michigan, Ann Arbor, Mich.
Architect: Perkins & Hamilton



Fordham University, Fordham, New York
Architect: Robt. J. Reiley, New York City



Besides affording scientifically correct schoolroom daylighting Fenestra Steel Windows offer such modern advantages as:

1. Maximum Ventilation—up to 100% if desired.
2. Built-in Windguards at the Sill—fresh air ventilation without direct drafts.
3. Maintenance Economy — every outside inch of glass quickly washed from within the room.
4. Glass Replacement Economy —inexpensive replacement of small glass lights when broken.
5. Silent, Finger-touch Operation —non-warping steel construction
6. Firesafety —muntins and frames are solid, rolled steel sections.
7. Beauty —slender lines and fine hardware appointments.
8. Extraordinary Weathertightness—demonstrated by University of Michigan tests.
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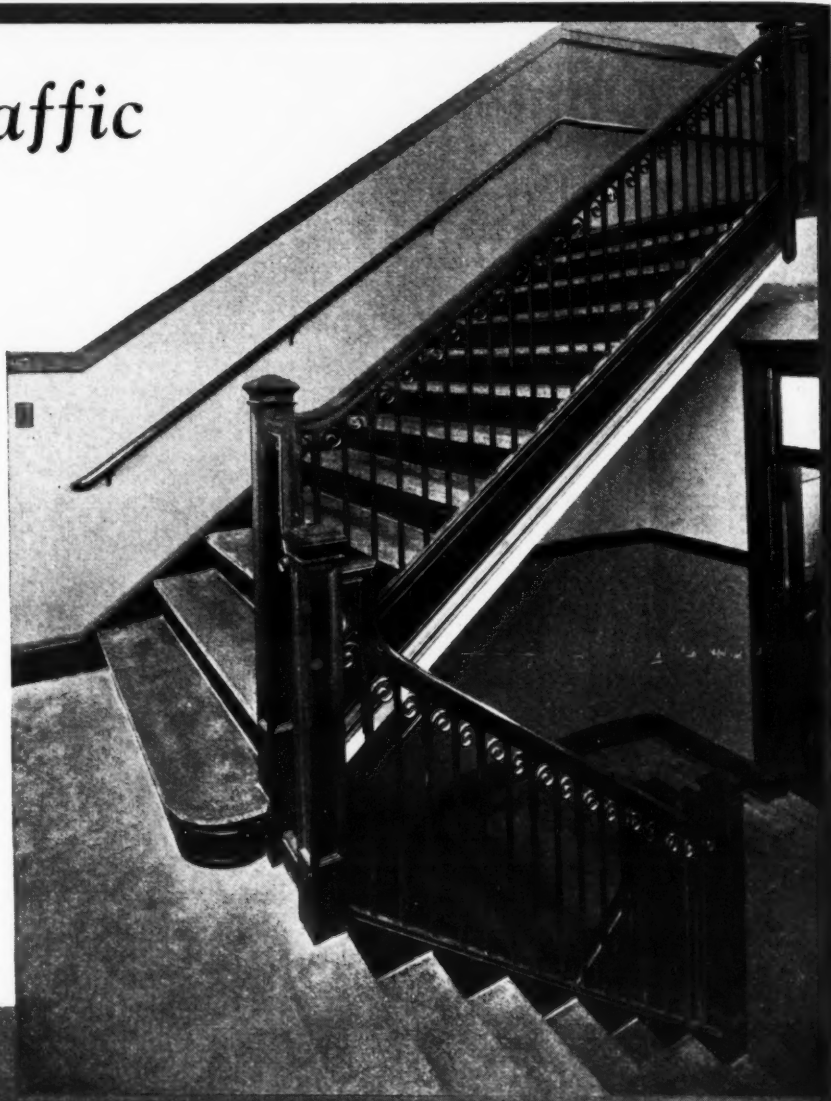
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still be non-slip

Precast Alundum Aggregate Treads can be depended upon to give many, many years of service and to be non-slip throughout their entire life. Made of marble chips and Alundum Aggregate, of alike or contrasting colors, bonded with cement, colored or uncolored, these one-piece treads are suitable for use on plain steel stairways or in conjunction with marble or other decorative materials. They combine attractiveness of appearance with both safety and durability.

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(Continued from Page 66)

which divides the teaching staff and the executive staff.

In closing, Dr. Cooper discussed the business manager and set up six ideals which he declared the chief business executive must meet. The business manager, he said, must primarily understand that the schools are conducted for the children and every detail of business management must be directed toward that end. The ideal business manager must be; (1) an educated man; (2) he must have the educational

point of view; (3) he must have special training for his job; (4) he must be alert to all the progressive movements in the business world; (5) he must have a sense of proportion; and (6) he must be a genuine diplomat. The loyalty of the business manager is not necessarily personal loyalty to the superintendent of schools, but rather loyalty to the school system and its service.

School Board Functions

"The Relation of the Board of Education to Its Executive Officers" was discussed in a very

suggestive way by Dr. D. C. Todd, member of the board of education of St. Louis, Mo. Dr. Todd set up the ideal that members of boards of education must be outstanding citizens of culture, education, and experience, men and women of affairs who are not babbling dreamers but who have vision and foresight and a practical grasp on affairs. Such a board of education must employ competent executives who are trained and experienced in the field of education, and who are ready to shoulder the

(Continued on Page 70)



THE MEMBERS OF THE NATIONAL ASSOCIATION OF PUBLIC-SCHOOL BUSINESS OFFICIALS ASSEMBLED ON THE LAWN AT MONTICELLO

SELECTING FINISHED FLOORING MATERIALS for SCHOOLS

Relative Importance of Various Characteristics of Finished Flooring Materials Governing Their Use in Twenty Divisions of the School Plan

Amount of attention to be given each characteristic is indicated by points in 100. Thus, the properties of predominant importance rate 100; secondary properties by lower figures.

Type of Space	Appearance	Sanitation	Durability	Maintenance	Quietness	Comfort	Resistance to Acids and Alkalies	Easy to Repair
Entrance Vestibules and Lobbies	80	40	100	90	60	0	0	90
Stairways or Ramps	50	40	100	90	80	60	0	90
Corridors	90	40	90	90	100	80	0	90
Administration Offices	100	30	70	70	100	80	0	60
Library	100	20	60	60	100	80	0	50
Assembly Hall	100	40	90	70	80	60	0	80
Class Rooms	80	100	100	90	80	90	10	70
Kindergarten	80	100	70	90	80	100	50	40
Music Department	90	30	60	50	100	80	0	40
Physics Laboratory	40	100	80	90	50	70	80	70
Chemical Laboratory	40	100	80	90	50	70	100	80
Gen'l Science and Biology Labs.	40	100	80	90	60	60	90	70
Commercial Department	50	80	80	70	70	70	10	70
Drawing	80	70	80	90	90	100	30	40
Industrial Arts	10	70	100	90	50	80	70	60

PRACTICAL USE OF SEALEX FLOORS IN SCHOOLS

The Logical Allocation of Various Types of Sealex Floors in Twenty Divisions of the School Plan

A—Excellent for This Space
B—Optional Choice

C—Alternate for Maximum Economy
Blank—Other Materials

Type of Space	Sealex Treadable Tile (Marble and or Plan)	Sealex Linoleum			Stark-Copper when Tile with Sealex Linoleum	Natural Cork Tile	Gold Seal Cork Carpet
		Buttercup	Jaspé	Island			
Entrance Vestibules and Lobbies	A	C	C		B		
Stairways or Ramps	B	A					
Corridors	B	A	B		B		
Administration Offices	A	C	C	B	B	A	B
Library	B	C	B	B	C	A	B
Assembly Hall	B	A	A		A		
Class Rooms	B	A	B		A		
Kindergarten	A	A	A	B	A	B	
Music Department	B	A	A		A	B	B
Physics Laboratory		A	B		B		
Chemical Laboratory							
Gen'l Science and Biology Labs.		A	B		B		
Commercial Department	B	A	B		B		
Drawing	B	A	A		B		B
Industrial Arts							
Home Economics	A	C	C	B	B		
Cafeteria	A	C	C		B		
Physical Education—Gymnasium		A	B			B	B
Rest and Medical Rooms	A	A	A		B		

For your files

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for schools

Ohio State University, Columbus, Ohio . . . American Academy of Arts & Letters, New York City . . . University of Florida, Gainesville, Florida . . . University of Arizona, Tucson, Arizona . . . Johns Hopkins University, Baltimore, Md. . . . University of Pennsylvania, Philadelphia, Pa. . . . University of Minnesota, Minneapolis, Minn. . . . Albany Law School—Union University, Albany, N. Y. . . . University of Kentucky, Lexington, Kentucky . . . Yale University, New Haven, Conn. . . . Harvard University, Cambridge, Mass. . . . Mass. Institute of Technology, Cambridge, Mass. . . . University of Illinois, Urbana, Ill. . . . Cornell University, Ithaca, N. Y. . . . Princeton University, Princeton, N. J.

“Facts You Should Know About Resilient Floors for Schools” is a concise study prepared for us by architects. Much of its information is in chart form so that it can be comprehended at a glance.

The recommendations in this booklet are not based on guesses as to what our materials might or might not do. Sealex floors have been installed in many of the country’s leading Universities (see partial list at left), and in thousands of high schools and elementary schools. When Sealex materials are installed by Authorized Contractors of Bonded Floors we back them with a Guaranty bond.

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ning Hartshorn Rollers by the Barnes Hospital Group.

It is also interesting to note that Stewart Hartshorn can supply, out of standard products, various types of shade cloths to meet the needs of the various hospital rooms . . . Let us tell you more about it—write for samples and prices.



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(Continued from Page 68)

needed authority and responsibility. To function properly in the conduct of the schools these executives should have the right to appoint their own assistants as well as the teaching staff, to construct their programs, and to carry on the practical administration of the schools. The members of the board should be informed fully on every phase of the work so that they may decide intelligently in setting up policies and in approving or disapproving the acts of their executives.

"The board of education and its responsibilities are often misunderstood by the public. There is an artificial glamour thrown about a board of education which is misleading in many ways, when, in fact, such an elective board is but a committee, appointed either directly or indirectly to represent the populace at large, while the official make-up is the living, vital result-getting division. This not only does or would strengthen the whole public-school force, but it in no wise takes dignity or real power from the board. The elective body has always, by law, the power to appoint the heads and, for cause, to remove them. It can, and does, when delegating the authority to act, demand results in proportion to the power given. The stewardship is a challenge from the elective group to the officers, and dividends must be forthcoming or a change can be made by the direct representatives of the people."

In discussing the unit plan as opposed to the dual plan of administrative organization, Dr. Todd spoke of the success of the latter in St. Louis. In his opinion the sanction of the board of education and the cooperation of all the executive officials of the school system are fundamental for the success of any school administrative undertaking.

Further Round Tables

The entire session on Wednesday afternoon was devoted to general discussions of playground surfacing, building repairs, and standards of building construction. On Wednesday evening the Association divided into two sections. Mr. Frederick D. Chambers, auditor of the New York board of education, led in the discussion of a progress report on school accounting. The Committee on Standardization of School Accounting has set up tentatively a new unit of figuring pupil costs. It has been found that the cost per single unit hour is such a small fraction of a dollar that it is lacking in significance. The committee, therefore, proposes that the unit of pupil costs be 1,000 hours, which represents roughly about 200 days of school of 5 hours each. This unit of 1,000 hours will make it possible to compare costs in schools having unequal school hours and school days and it will permit of significant comparisons in amounts that are not too small. The round table further discussed the accounting for transportation, the liability of school boards for accidents, the accounting for janitorial service, maintenance costs, etc.

The convention spent Thursday in a visit to the historic city of Charlottesville and to Monticello, the home of Thomas Jefferson.

The Friday Session

Dr. N. L. Engelhardt, of Columbia University, opened the Friday morning session with a typically scholarly paper on the effects of the present economic depression upon city and state administration of schools. Predicating his argument on the idea that school business must be carried on most efficiently so that the schools may achieve the purposes for which they are established, and that the principles and techniques of school-business administration must

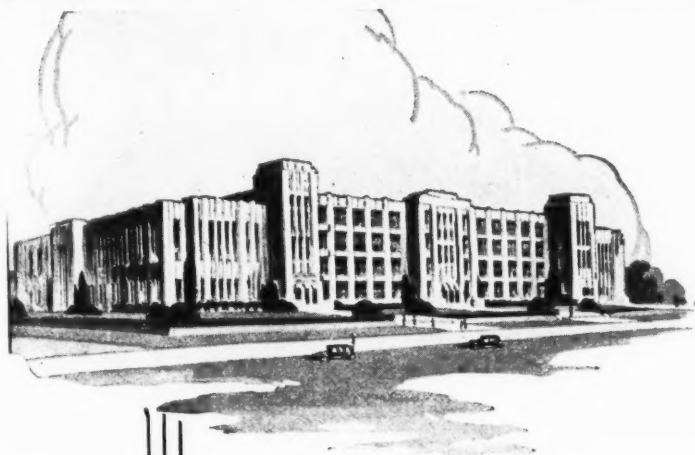
rest on a scientific basis, he urged that the entire effort of the Association should be directed toward setting up a professional spirit in school-business executives.

All branches of school business are in need of analysis, he said, so that effective statements of principles and of correct practice may be set up which result in measures to remedy bad conditions and to set up forward-looking policies and practices. School-business management must continuously evaluate and revise its technique so that its entire activities are carried on with definite reference to the educational program and educational needs. The best economy in education comes from the wise use of money expended for a maximum return in educational service given by buildings, personnel, equipment, and accounting.

In illustrating the avoidance of leaks, which is a definite element in economy, the speaker touched upon the need for expert checks upon buying, handling, and custody of school funds, improved methods of bonding, economy in insurance, etc.

Dr. Engelhardt urged the school business officials to inform themselves on the fundamental theories of political economy and recent progress in all branches of public administration. He urged especially that they understand new methods of taxation and public finance, which are of significance in these times of pressure upon budgets, etc. In closing, he spoke of the vast changes which have taken place in society due to scientific discoveries, industrial changes, the growth of the automatic machine, the reduced demand for labor, and the changed conditions of life in urban as well as rural communities. He urged that the business managers of school systems can contribute their share to-

(Concluded on Page 72)



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BIG schools, numerous classrooms, large faculties, private offices for teachers... All these features of the modern school become drawbacks if not "held together" with equally modern communication—a Strowger P-A-X (Private Automatic Exchange) system.

With P-A-X, a principal can, in four seconds, have a telephone connection with any teacher in his faculty, monitor, engineer, janitor, or other employee!

With P-A-X, any teacher can consult her principal without leaving her desk or students, without the long walk to the principal's office, without stair climbing... Like having principal, teachers, students all in one room, as far as their keeping in touch with each other is concerned!

P-A-X is indispensable to the modern school, not only because size and numbers necessitate it but because it *improves the effectiveness* of the teaching staff as no other facility can.

This increased effectiveness of the institution pays, again and again, the cost of a P-A-X school installation!

No new school should be planned without a P-A-X system. Existing schools may find a P-A-X system all that is necessary to increase management efficiency and reduce hall and classroom commotion.

Principals and directors of new and old schools should find out all about P-A-X by

writing for Circular 1527. Or, easier still, writing a note requesting the call of a P-A-X engineer, who will explain P-A-X systems thoroughly, analyze your school's needs, and recommend the most suitable system.

Strowger P-A-X is identical in design and quality with public dial telephone systems

One company makes both—that's why a school can have such perfect private telephone service. Here are other reasons why P-A-X has no rival among communication systems for schools:

- 1** Strowger P-A-X is completely automatic, requires no switchboard "attendant."
- 2** P-A-X has been built for more than forty years. No new experiment. Many schools, hospitals, and thousands of businesses have them.
- 3** Because it is built of parts used by telephone companies, the purchaser of P-A-X has the benefit of quantity production—getting high quality at low cost.
- 4** Long-lived, P-A-X will outlast any school—and with minimum maintenance and operating costs.

Engineered, Designed and Manufactured by

Automatic Electric Inc.

Factory and General Offices:

1033 West Van Buren Street, Chicago, U. S. A.

Sales and Service Offices:

ATLANTA CINCINNATI DETROIT NEW YORK BOSTON
CLEVELAND ST. PAUL PHILADELPHIA PITTSBURGH
KANSAS CITY, MO. LOS ANGELES WASHINGTON, D. C.



STROWGER
P-A-X
PRIVATE AUTOMATIC EXCHANGE

PROTECTING PUBLIC INTERESTS



James Monroe Junior High School, Seattle, Wash.; glazed with L-O-F Glass. F. A. Naramore, Arch. Sheble Construction Co., Seattle. General Contractors

All Schools, Hospitals and Municipal Buildings should have adequate glass surfaces. Capturing sunlight for proper day illumination is necessary to the comfort and utility of the building. Glass contributes immeasurably to the exterior of a building and actually is the dividing line between its interior and exterior beauty.

Architects throughout the country realize the importance of glass in design and utility—and appreciate the lasting qualities of Libbey-Owens-Ford Glass. Its beauty and sparkle are permanent contributions to any structure.

Each sheet of "A" Quality Glass bears the L-O-F label for the protection of the buyer. And quality glass prices were never so low as now.

LIBBEY · OWENS · FORD GLASS COMPANY
TOLEDO, OHIO

Manufacturers of Highest Quality Flat Drawn Window Glass, Polished Plate Glass and Shatterproof Safety Glass; also distributors of Figure and Wire Glass manufactured by the Blue Ridge Glass Corporation of Kingsport, Tennessee



This label appears on each light of L-O-F "A" Quality Glass. Printed blue for double strength and red for single strength

Listen to Floyd Gibbons every Sunday evening at 10:15 Eastern Daylight Time, over WJZ and associated NBC stations.

LIBBEY · OWENS · FORD QUALITY GLASS

(Concluded from Page 70)

ward the solution of these educational problems if they carry on school business in a forward-looking, dynamic manner.

Committee Reports

Mr. H. C. Roberts, chairman of the Committee on Insurance, reported to the Association that his group is carrying on vigorously its study of insurance methods and will be ready to make a completely revised statement of principles and desirable practices in 1932.

Mr. J. S. Mullan, chairman of the Committee on Supplies, recommended to the Association that the quality of school supplies be determined by the educational factors in the school system, but that quantities and costs be fixed by the business department. Mr. R. W. Hibbert, Director of the Division of Books and Supplies of the St. Louis board of education, was appointed chairman of the committee for the ensuing year.

President Barr announced that a new committee to study the relative advantages of the bonding and the pay-as-you-go plan will be

shortly appointed.

The recommendations of the Committee on Nominations for officers of 1931-32 were unanimously accepted by the convention:

President, Mr. W. N. Decker, secretary of the board of education, Altoona, Pa.

First Vice-president, Mr. Joseph Miller, Jr., secretary of the board of education, New York, N. Y.

Second Vice-president, W. E. Record, business manager of the board of education, Los Angeles, Calif.

Third Vice-president, Mr. James B. Ball, chief engineer of the board of education, Denver, Colo.

Treasurer, Mr. Henry Huston, Trenton, N. J. Secretary, Mr. J. S. Mount, Trenton, N. J. Member Executive Committee, Mr. Charles L. Barr, St. Louis, Mo.

The commercial exhibits at the convention were more extensive and informational than in any previous year. A total of 33 manufacturers were represented with special equipment and supplies for schools and school buildings.

FINANCE AND TAXATION

♦ Trevorton, Pa. The Zerbe township board of education has taken action, reducing the millage for tax purposes by 1 mill. The action was taken at a meeting called for the purpose of making a budget for the next school year.

The board is using the proceeds from a \$150,000 bond issue for the construction and equipment of an auditorium and gymnasium. The expenses thus far this year are \$2,600 less than those of a year ago. By the reorganization of courses and teaching staffs, and effecting other economies, the board has been able to reduce the budget for next year by \$3,500. The board of education receives an extra appropriation of \$15 per month for each teacher who qualifies for work in the junior high school.

In the matter of tax collections, the board reports that the township has fewer exonerations from taxes than during any previous year.

♦ The Northeastern Ohio Public-School Business Officials held a meeting at Rocky River, during the early part of May. The association elected new officers as follows: President, G. W. Grill, Lakewood; vice-president, R. E. Tilt, Hudson; secretary-treasurer, John Maynard, Cleveland Heights.

♦ Lakewood, Ohio. In order to meet the demands of a greatly reduced school income, the school board has reduced the teaching staff, increased the teaching load, and eliminated paid enumerators for the school census. In dispensing with the enumerators, with a saving of \$700, it was ordered that the census be taken by the teachers, with the assistance of the regular attendance officers.

♦ Tribune, Kans. Greeley county has voted \$100,000 in bonds for a high school, and \$22,000 for a grade school.

♦ Cedar Rapids, Iowa. The board of education has adopted a summer repair program, with an expenditure exceeding \$10,000.

♦ Great Falls, Mont. The school board has adopted a summer repair program, involving an expenditure of \$22,494.



MONTICELLO AT NIGHT

CLOUDY DAYS BRING THE *Twilight Zone*

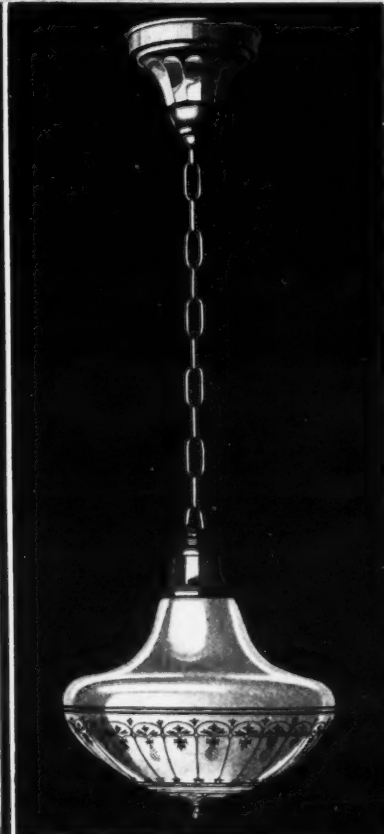
RAINY, cloudy days bring to schoolrooms the dull half-light known as the 'Twilight Zone'. And with this deceptive dimness comes eyestrain as a natural consequence.

Young eyes must be protected from this taxing half-light. When semi-darkness settles in a room, a twist of the switch must flood the room with clear diffused illumination.

Assure good lighting to your schools by the use of Sollux equipment—Westinghouse units designed to furnish correct light without glare or shadows. Don't allow the pupils of your schools to weaken their eyes in the Twilight Zone.

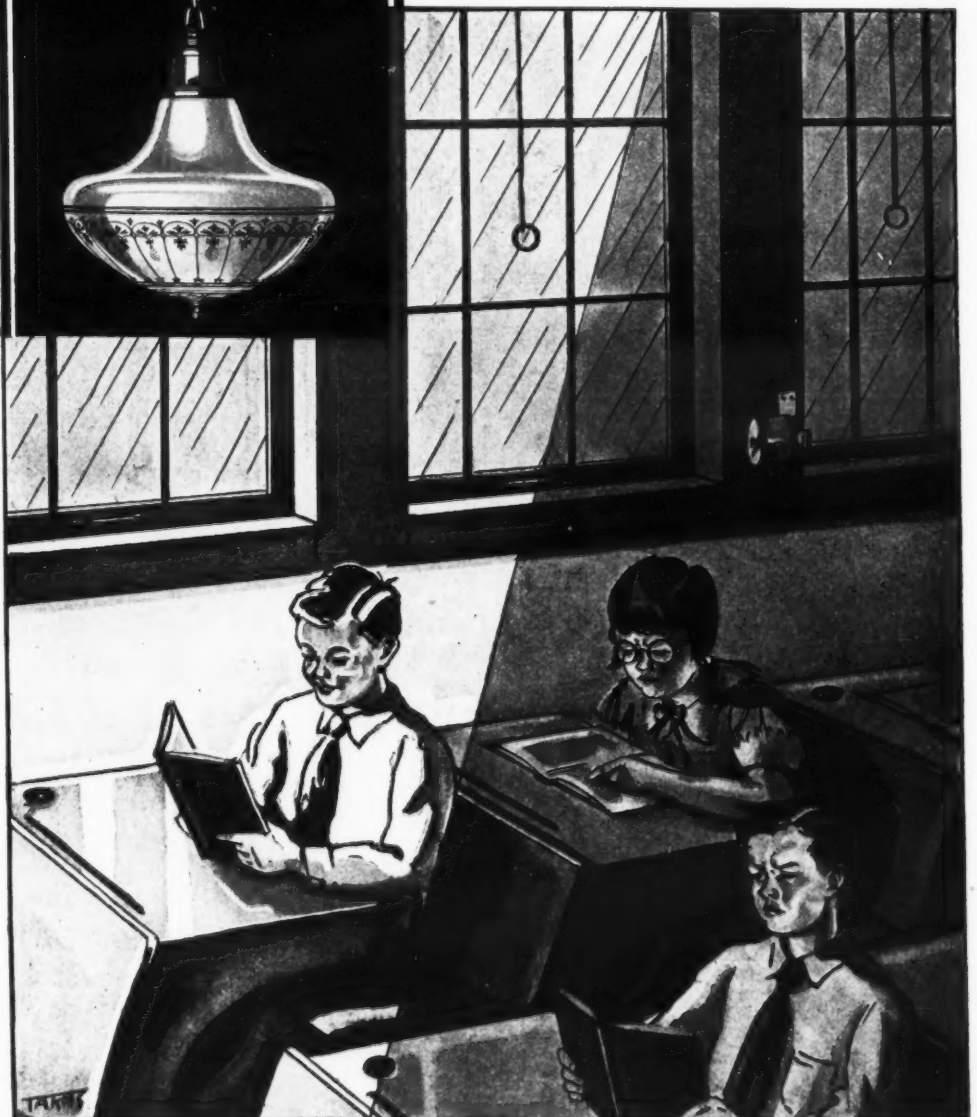
Write to the nearest Westinghouse District Office for more information on Sollux units, or call in a Westinghouse lighting specialist for advice when planning improvements.

**The deceptive half-light between obvious darkness and adequate illumination.*



Easy cleaning and lamp renewals are distinctive features of Sollux units. Globes need never be removed from their hangers, for "tilt-out" caps in the bottoms of the globes make access to the inside as easy as to the outside. Globes are dust and bug-proof.

Sollux units may be had in various sizes in either suspension or ceiling type. This photograph shows the suspension type.

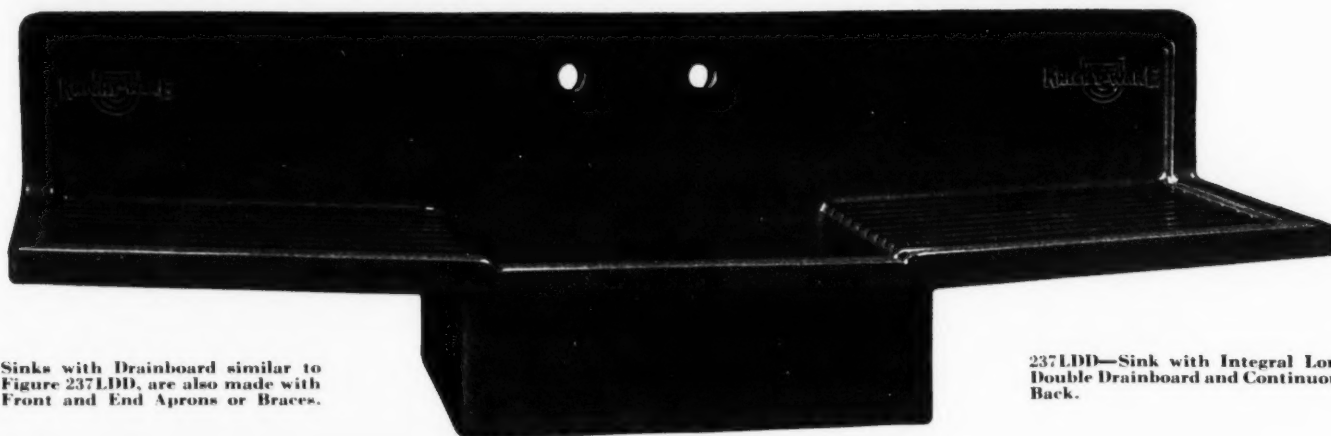


Westinghouse Lighting Specialists will help you plan an effective lighting system

Westinghouse

T 31892





Sinks with Drainboard similar to Figure 237LDD, are also made with Front and End Aprons or Braces.

237LDD—Sink with Integral Long Double Drainboard and Continuous Back.

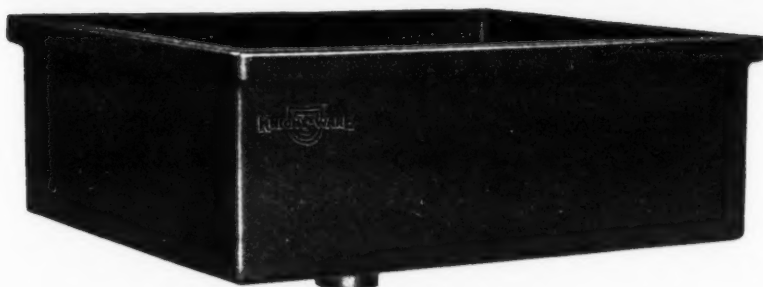
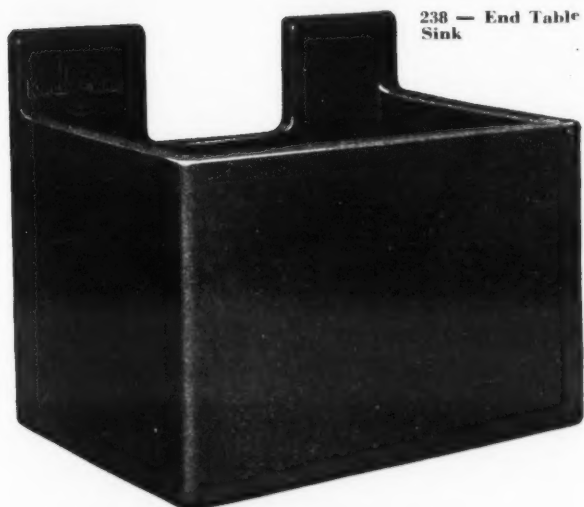


Figure 235—Laboratory Desk Sink



238 — End Table Sink

We supply Acid-Proof Pipe and Fittings for Waste and Ventilating Lines in all bores from 1" up to 60". We are also prepared to serve you with KNIGHT-WARE Laboratory Sinks, Sumps and Catch Basins, Ventilating Flue Caps, etc., in fact, any acid-proof laboratory equipment that you may need.

for

Economy, Security, Permanency
Specify

KNIGHT-WARE

Drain Lines : Laboratory Sinks
Ventilating Ducts : Acid Dilution
Basins : Ventilating Duct Caps

Our new 48-page catalog on KNIGHT-WARE LABORATORY EQUIPMENT containing complete details and fully illustrated will be mailed upon request. Send for your copy.

GUARANTEED SATISFACTORY
KNIGHT-WARE
"IT IS THE BODY ITSELF"
ACID-PROOF CHEMICAL STORAGE

Acid-Proof Laboratory Sinks

Specify Knight-Ware Sinks because

they're positively acid proof

The Knight body texture is absolutely impervious to the action of acids, alkalies, chemicals and corrosives. It will not chip, flake, peel or slough-off.

they're easy to clean

No dirt or slime will adhere to the smooth, well glazed surfaces of Knight-Ware Sinks. Inside rounded corners also facilitate cleaning.

they're made in one piece

No joints to spread and open to cause leakage. Outlets or tail-pieces are supplied as an integral part of the Sink itself thereby saving the cost of a metal outlet and the additional labor cost of installing same.

they're made to your specifications

Just the size and design that you require. Special features can be had at very little if any additional expense because Knight-Ware Sinks are handmade.

they're permanent

Will never be attacked by corrosives, will never disintegrate. Will last the life of the building in which they are installed.

MAURICE A. KNIGHT

149 Settlement Street
AKRON, OHIO

OFFICES:

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804 World Building
Beekman 1657

Philadelphia
1600 Arch Street
Rittenhouse 6300-6301

Chicago
230 N. Canal Street
Franklin 4658

St. Louis
1st National Life Bldg.
Main 1784

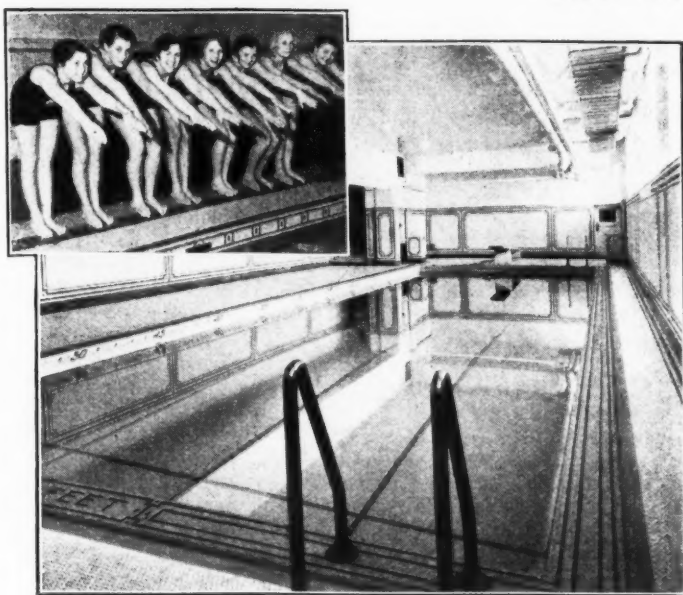
San Francisco
Merchants Exchange Building
Douglas 375

Niagara Falls
309 United Office Bldg.
Niagara Falls 597

Montreal, Que.
1307 Notre Dame Street, West
Main 2625

THE "AFTER SCHOOL" CROWD or THE RELAY TEAM —

Chlorination Protects Them All



INTERNATIONAL NEWS PHOTO SERVICE

Swim in



Drinking Water

A PRODUCT OF

WALLACE & TIERNAN

SP-13a

WHETHER a hundred or only four, the residual sterilizing action of chlorine positively protects bathers at every point in the pool.

Correctly designed control features of W&T Chlorinators enable any pool attendant to instantly meet sudden changes in bathing loads.

W&T Chlorinators are built to chlorinate properly—always with accuracy and ease of control.

For the sake of safety as well as saving, let our staff be of service. There is no obligation.

Technical Publication 41 "The Sanitation of Swimming Pools" will be sent to any address on request.

WALLACE & TIERNAN CO. INC.
NEWARK, N. J.

Branches in Principal Cities

The Editor's Mail Bag

NEW YORK CITY'S SCHOOL PLAN STANDARDS

To the Editor:

I wish to thank you on behalf of Mr. Harrison and myself for the very painstaking and thorough review of our book *School Buildings of Today and Tomorrow*, which appeared in the May issue of the *SCHOOL BOARD JOURNAL*.

In the main your reviewer's statements concerning the development and use of standards for the New York school buildings are accurate and to the point, but I should like to correct his opinion on one point.

He states that "perhaps the strongest criticism that can be made of the standards thus developed in New York City has been the fact that the ultimate inclination has been to consider standards as effective for considerable periods of time." This may have been true with reference to standardized elementary-school buildings that were erected a few years ago when the need for new sittings was so great that advantage had to be taken of every possible short cut and some concessions had to be made to what we all knew to be correct practice. Now that the need for new buildings is less acute, there is no disposition on the part of anyone to adhere to standards unless they are strictly appropriate.

In the case of standardized elementary schools, we change the internal arrangement to suit the type of organization required in each locality and change the location of the kindergarten and other rooms in order to give them the proper orientation.

The standards for special rooms are modified or changed in toto just as soon as it becomes apparent that the old standards do not perfectly meet the requirements. It was thoroughly understood when the standards for the various rooms were adopted that they would be changed as often as necessary to meet the recognized teaching needs.

As an example of this, I might state that, shortly after the copy for the book was sent to the printer, we made slight changes in the standards for the model apartment in elementary schools, and we adopted an entirely new standard for the cooking room in high schools. These changes were made just as soon as the teachers and directors had determined that changes were desirable.

I call this matter to your attention merely that you may understand a little more clearly our attitude toward these standards. There is no disposition whatever on the part of anyone to force the teaching staff to use inappropriate tools. Every possible effort is made to provide buildings appropriate in every detail for the courses of study and methods of teaching that have been established.

It has been my aim in this book to emphasize that as the most important principle of schoolhouse planning.

C. E. DOBBIN.

New York City, June 4, 1931.

A FORMULA CORRECTED

To the Editor:

I find that in my article entitled, "Practical School Business Economics," which appeared in the June issue of the *SCHOOL BOARD JOURNAL*, I presented a formula which lacked the quantity symbols and I fear that some reader might use it some time and get the wrong result.

This formula appears on page 39, toward the top of the upper right-hand corner, as follows: $R - NI - D \times .80$ = Amount of insurance to be carried. It should have read:

$(R - NI - D) \times .80$ = Amount of insurance to be carried. If you have an opportunity to correct this in a later issue, I would appreciate it very much.

H. H. LINN.

Muskegon, Mich., June 5, 1931.

SAFETY FOR SCHOOL CHILDREN

Ralph E. Dugdale, assistant superintendent of the Toledo, Ohio, schools calls attention to the need for greater cooperation between parents and the schoolboy patrol, which are charged with seeing that children cross the streets properly. "Often parents are resentful," he says, "when schoolboy patrolmen call their attention to failure to stay in safety zones until the traffic is clear." In comment

the *Toledo Times* says: "Since the patrols have been instituted there has been a steady decline in the number of child fatalities. The effect of the extensive safety-education work now being conducted in the schools can be undone by thoughtlessness on the part of adults who fail to appreciate its importance. Parents can learn much from the children in this respect. Accidents, almost invariably, come from disregard of the fundamental safety precautions which are inculcated in the classroom."

EDUCATIONAL RADIO STATIONS DECREASING

The conversion of radio broadcasting stations originally assigned to educational institutions to commercial operation and their transfer to business enterprises has become more in evidence, according to a recent statement of the Federal Radio Commission.

Since the commission took over the administration of radio broadcasting in February, 1927, 53 educational radio stations have been deleted from the lists. Of these, 23 have been assigned to commercial interests on the application of the stations themselves. There are approximately 50 stations now operated by educational institutions.

For the most part, educational stations have been unable to compete with commercial broadcasters. For this reason, several applications have been received for transfers of licenses to commercial interests. A survey made by the federal radio commissioner, Harold A. LaFount, shows that 6 minutes out of every 60 on the air are devoted to educational programs.

♦ Minneapolis, Minn. The school board has approved a five-year building program providing for an expenditure of \$4,546,585 for new buildings, additions, and new units. The program is expected to take care of increases in the school population during the next five years.

♦ Albany, N. Y. The mayor and the school authorities are cooperating in a plan for the erection of new buildings to supplement twelve old and antiquated structures. The school board has been asked to submit a reconstruction and expansion program and to outline a plan of development to extend over a period of years.

School Supplies and Equipment— Sale and Purchase

H. W. Schmidt, Wisconsin State Department of Public Instruction

Note. This is an address delivered before the National School Supply Association. It has not been the policy of THE AMERICAN SCHOOL BOARD JOURNAL in the past to espouse the cause of the maker and seller of school supplies and equipment, but rather to represent the interests of the purchaser, or the cause of the schools. The present article is permissible because it is presented by a public-school official and addresses itself particularly to those who are engaged in the school-supply trade and attempts to discuss in a frank manner the things that concern both producer and consumer. On the basis of a school enrollment of 25,000,000 children the cost of school supplies exceeds the \$75,000,000 mark. Add to this the cost of equipment on the basis of 9 per cent of the average annual building costs and we have an additional sum of \$30,000,000 expended for materials whose manufacture and distribution are in the hands of the National School Supply Association. Thus, the total annual school-supply and equipment trade runs considerably over the one hundred million mark.—The Editor.

In the past twenty years or more, especially during the past decade, revolutionary changes have taken place in school administration and in the content and trend of curricula, both elementary and secondary. These changes have exerted a marked influence upon auxiliary factors such as equipment and supplies. It is still true, in too many cases, perhaps, that some teachers are yet dependent upon their own textbooks and the supplies furnished from a central distribution depot, for their teaching success—as the texts and supplies, so the teaching. But the advance guard, yea, even most of the rank and file, have broken away from this lock step and are asserting themselves as individuals in the great army of the profession.

Again, the child is no longer a member of a group or class, in the educational sense, and we no longer deal with the "average child"—I have often wondered what such a youngster would look like and if I would recognize him—but with the child as an individual, a separate entity whose native endowment is used fundamentally and basically to be developed to its fullest through modern methods and attack in which the group you represent has an important part even if indirectly only.

Another factor not to be forgotten in this connection, is that the simple demands which the past social order made upon the school child through the older curriculum, have given way to the complexity of our modern times and in consequence also to a fuller, more vital content of present schoolwork. Physical education, modern hygiene, the teaching of safety, vocational work and many other subjects are accepted parts of our schoolwork. And let us not forget that during the past 30 years our total school population has increased 100 per cent, while that of the secondary schools has increased nearly 800 per cent.

All of these factors, better teaching technique, better trained teachers, child study, complexity of the modern social order, and a correlative change in curricula, all have left their indelible impress upon the matter of the sale and purchase of school equipment and supplies. The expenditure of over \$100,000,000 per year for these commodities has entailed a new viewpoint and problems which we might well discuss in some detail. Let us take a few of the more outstanding ones which have forced themselves upon us.

Lack of Standardization

One of these is waste. That enormous waste has taken place in the past and is still of great volume goes without saying. It would be impossible to eliminate all of it and reduce it very much when we consider the thousands, nay, actually millions, who distribute, handle, and use school supplies. One of the factors is that of organization which has its definite influence upon this matter. Lack of standardization in many directions is also a contributing factor. Nearly every school, certainly every large school system, is a law unto itself in respect to the purchase and distribution of its school supplies. Maybe standardization of the more common and universally used materials may help; maybe we cannot go so far as we might like

to due to the state of flux existing in our schoolwork and attitudes at the present time. But it is rather interesting to contemplate that so far comparatively little effort has been made to either standardize materials or to solve our problems connected with waste.

Of course, I recognize that there are some items which have been investigated and which have, in consequence, undergone great improvement, partial standardization, and a consequent proportionate reduction of waste, both in manufacture and in use. May I refer to the matter of seating, in which one firm alone has spent many thousands of dollars in order to bring a true scientific attitude to bear upon the rather complex problem of adapting the school seating to the human organism; the fact that firms dealing in sanitary products have employed the best chemists to help them solve their problems and to standardize their product.

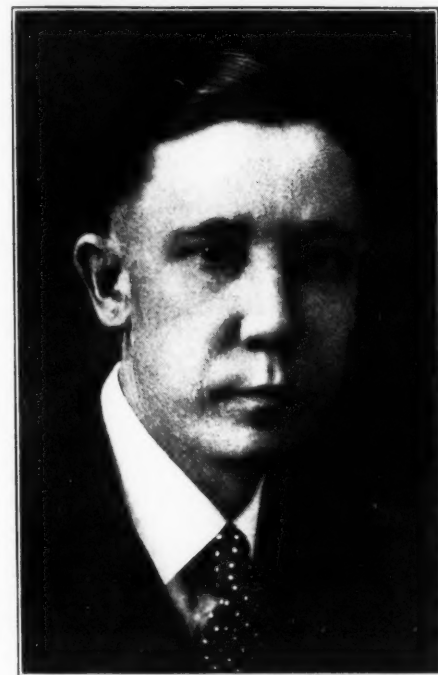
The work of the Simplified Practice Committee of the U. S. Dept. of Commerce, and last, though by no means least, the splendid work of your own association in bringing about much-needed reforms and publishing investigations and reports on the problems confronting your members are all fine examples of real scientific attitudes toward problem solving. This is an age of research and scientific investigation and certainly these must be utilized by us to the fullest if we are to cope with modern business and do our share toward clearing up the many vexing questions constantly arising. Standardizing of as many products as may be will certainly be a step in the elimination of waste and also reduce the "hazards" of selling.

Another very fruitful source of waste is the lack of "specific specifications" which are presented to your salesmen. The terms I have just used have a real significance. I have spent, per proxy, of course, hundreds of thousands of dollars for supplies and equipment. I have made out specifications for supplies and equipment by the hundreds; I have seen and read them probably by the thousands and yet there have been mighty few of them which were truly "specific," even my own, I'll have to admit. We are very prone to rationalize—to read a significance into the written or printed word which is not there. And then there is the "devil to pay" as most of you have found out to your sorrow and likely also to your cost.

Two Sets of Specifications

A little analysis of many specifications upon which you are called to bid will show that they have been written with the best of intention but they break down on the score of a lack of technical or trade knowledge and precise English. Let me quote from two sets of specifications, the first, the common kind. (They are taken from actual lists presented to salesmen.)

- 40 pts. white library paste
 - 40 gr. chalk, common
 - 5 gr. felt erasers, sewed
 - 4 oz. pointers
 - 6 gr. rulers, 12" hard wood
 - 100 rms. examination paper, ruled
 - 100 sheets manila tag board
 - 50 sheets white blotters
 - 12 pencil sharpeners
 - 3 vacuum eraser cleaners, with chalk tray cleaner, "Palmer" make
 - 5 gr. pen holders, common
- What am I offered for the lot? There is only one specific item mentioned, the eraser cleaner. The other specifications read in part as follows and show signs of real intelligence:
- 10 doz. rulers, maple, 12", smooth rubbed finish, $\frac{1}{8}$ " div. one beveled edge with brass inset.
 - $\frac{1}{2}$ gr. $\frac{1}{2}$ pts. White dextrin paste; harmless preservative; no glue or other adhesive admixture. Brush cap.
 - 500 pkgs. strawboard—80-lb. base—trimmed to 8" x 8", 10 in package, banded.
 - 1000 pkgs.—36-lb. S. & S. C. colored paper, laid 6" x 6", 25 to package, wrapped. Five colors to package, to be selected from color samples submitted.
 - 250 rms. "examination" paper, white, 24-lb. sulphite pulp base; S. C. finish, wrapped. Ruled $\frac{3}{16}$ " faints both sides— $1\frac{1}{2}$ " top margin. Red margin line 1" from left edge, ruled both sides.



LELAND P. BROWN
Superintendent of Schools,
Olympia, Washington

Mr. Brown, who was formerly principal of the high school, was elected on May 5, as superintendent of schools, to succeed E. L. Breckner.

Mr. Brown is a graduate of the University of Washington and holds the degree of A.B., given by the same institution. He also completed postgraduate work at the Washington institution. Following his graduation, he was principal of the high school at Lebam for two years, and in 1919 was appointed principal of the high school at Olympia.

150 gr. White chalk, "dustless" medium hard, equal or similar to "Alpha."

100 gr. Ditto, soft.

Enough said. To say that the school authorities will get their money's worth, get the grade of article desired, cut out "gyp" competition and leave a good feeling all around, is stating it mildly. I know. I've been up against this very thing from a good many angles in my lifetime.

So far I've been presenting the matter from your angle, mostly; now let us see what the purchaser, the schoolman, has to say about it.

In the dim past, and yet not so dim as time goes, the schoolman was at the "mercy" of the supply salesman. I am not using the term "mercy" in a derogatory sense, at least not too much so; I mean the supply houses laid in a stock of stuff and that was there to sell. I suspect there are still a few of them left. Today the situation is changed somewhat, in fact quite so, and unless the stock carried is what the school administrator wants, it will be left high and dry or sold to a country school board. Here again I am not just talking. I have seen and observed critically and in too many cases the statement just made is true. But I am also forced to say that this phase of selling is on the wane and that we are getting a true co-operative sales proposition whereby all are benefited. But price, mostly a false economy factor, still is a dominating feature of the game.

Coöperation Between Buyer and Seller

This matter of coöperation as a selling principle, not only in school business, is coming more and more to the front and in my mind is one of the greatest and best signs of the times. In many other forms of business it is already a firmly established principle, but apparently this is not yet the case, generally speaking, among school people. They are conservative as a group and great business ability may probably not be looked for.

At the same time the whole problem is not a one-sided one at all. The research work being done by school people along lines which touch directly upon your problems is of no mean volume and may and should be used as a basis for coöperative discussion and selling. The result of this may well influence your attitude as well as that of the administrator. There seems to be no good reason why salesmen and administrators may not pool their knowledge to promote a better understanding all around. Of course, we expect a tactful acquiescence in the views of each other and a give-and-take attitude needs to be engendered if a proper business relation is to be arrived at. Tolerance is a valuable asset; intolerance is fatal.

(Continued on Page 78)

Where thoughts are not troubled by **NOISE**..

A CORNER IN THE COUNTRY...
OR A CORK-QUIETED SCHOOL ROOM



Corkoustic brings a quiet atmosphere to the classrooms of the Stedman School, Denver, Colo. Here two spray-coats of cold-water paint have been applied to the Corkoustic.

IN everyone's memory there is the recollection of a soothing hour by a placid pool—a moment on the crest of a hill—some place where thoughts are undisturbed. School rooms lined with Armstrong's Corkoustic, the cork material for sound-quieting and acoustical treatment, offer that same quiet atmosphere. Such rooms make school work easier by hushing disturbing noises and improving hearing conditions.

Decoratively, too, the rich, brown panels of Corkoustic are ideal for all

types of school decoration. Colors and designs, if desired, are readily obtained with stencils.

Corkoustic is also a highly efficient insulating material. Rooms lined with Corkoustic are cooler in summer, warmer in winter. And fuel is saved.

Let us send you a copy of "Armstrong's Corkoustic." Your copy with samples of Corkoustic will be sent free on request. Address Armstrong Cork and Insulation Company, 954 Concord Street, Lancaster, Pennsylvania.

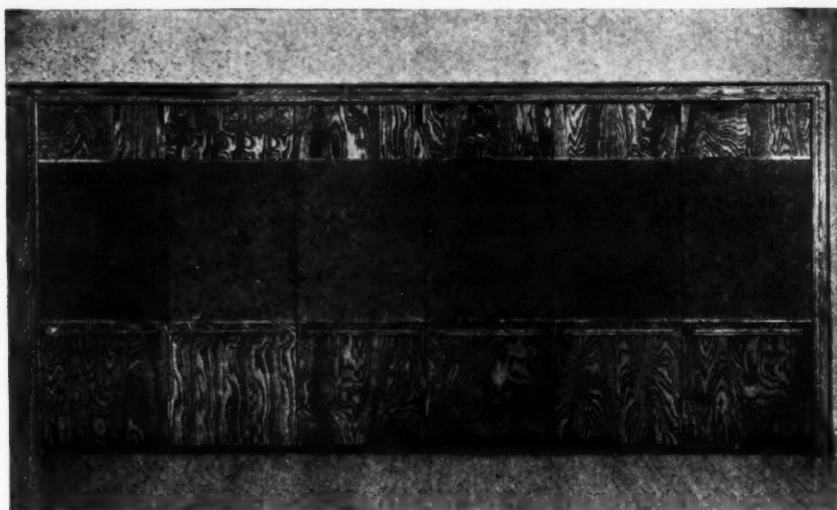


Product

To eliminate noise and absorb vibration of moving machinery, we suggest the use of Armstrong's Vibracork. Fans and motors of the ventilating system, pumps, printing presses, and other types of equipment can be effectively silenced by resilient cork. And machines last longer when vibration is checked. All the advantages of cork-cushioning can be secured at very moderate cost. Write for our pamphlet describing the practical applications of Armstrong's Vibracork.

Armstrong's CORKOUSTIC

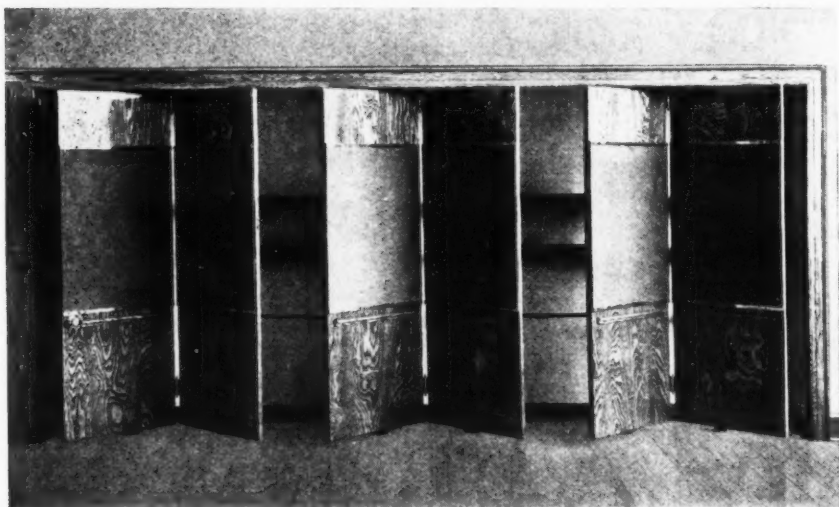
The modern acoustical, insulating treatment



Architect: Paul Huber,
Syracuse, N. Y.

Blessed Sacrament School
Syracuse, N. Y.

Contractor: Shane Construction Co.
Syracuse, N. Y.



SMOOTH ACTION

*Smooth, Quiet Action
through years of steady use*

Circle A School Wardrobes are of the latest—most improved design. The workmanship is painstakingly accurate, to insure freedom from the “wobbles” and “rattles” that are likely to develop in less carefully constructed doors and hardware.

Choice of two styles—Pair and Group operation. In Pair operation, each pair of doors operates as a single unit. With Group operation, all doors are under the control of one master door.

Doors swing into the wardrobe, leaving aisles unobstructed. Folding in pairs, the blackboard surfaces cannot be brushed against. Ball bearing hardware and well balanced construction give unusual ease of operation. Your request brings new file catalog with detailed descriptions, plans and photographs.

CIRCLE A PRODUCTS CORPORATION

690 South 25th Street, Newcastle, Indiana

Also manufacturers of: Circle A Folding Partitions, Rolling Partitions, Sectional Partitions, Steel or Wood Portable Bleachers, Portable or Permanent Steel Grandstands

CIRCLE A
School Wardrobes

(Continued from Page 76)

But let me be specific. You may remember that the specifications for examination paper were somewhat unusual in that $\frac{5}{16}$ -inch faints and a red margin line were called for, thus making this a “special” ruling job. Unless a particular reason for the red margin line and narrow faints existed it would have been better business if the schoolman had been aware that he was calling for a special ruling job and that stock ruling of $\frac{3}{8}$ -inch faints and no margin would be cheaper, give him better delivery, and serve all purposes. As a matter of fact, this is what was sold by one salesman to the advantage of all concerned.

A blackboard salesman was recently trying to sell a substantial amount of material to a school board erecting a new school. The building called for 42-inch boards, but in the interests of a greater sales commission, I take it, or maybe he thought he was right, the salesman tried to convince the school board that 48-inch boards were better and used more frequently. His attention was called to a recent study made by the writer showing that even 36-inch blackboards would suffice in most cases if they were mounted at the proper heights.

The salesman had never heard of this, but being a good salesman he fell in with the views of the school-board members. Because of his tolerance he sold the board the “boards.” High-pressure salesmanship might have sold 48-inch blackboards but later the *entente cordiale* would have broken into smithereens. But although it proved correct in this instance, I do not believe in the old selling adage, “The customer is always right,” as either a true or good working principle. One cannot know all there is to know, and even a schoolman, if he is a good schoolman, will learn from others not necessarily professional educators, but educators nevertheless.

Conscientious Salesmanship

Schoolmen have their own problems to meet and in most cases know what they want even if they are not always in a position to make very exact and specific statements; your group, as a group and as individuals, through your sales force, are in

a very strategic position not only to help but to further your own interests and those of the schools as well, which latter interests, in their turn, redound to your benefit; and so we have, not a vicious circle but a beneficial one, a cooperative job. I am glad to say that I meet in most cases a splendid group of men representing your association and a good example of a real cooperative selling job may be cited, and by the way, I was present, so can vouch for the episode. The purchase of seating was involved and an order for 375 desks was to be placed. The deal was about ready to be closed when the question of the number to be placed in each room came up.

“We are going to put 47 in each of eight rooms,” said the school-board clerk.

“How large are your rooms?” asked the salesman.

“Twenty-one feet by thirty feet.”

“But you can’t place that number and have proper aisle and front space,” replied the salesman.

The result of a rather careful layout right then and there showed that 319 seats were all that could be used. The order was placed for that amount. You should have heard of the splendid esteem in which this salesman and his firm were held by this school board. The firm gained in all respects by this deal. The original sale was a small item in the whole transaction.

A Few Cases in Point

Another instance, an attempted cooperative job, was that between a state department of education and a number of firms making heating specialties. The matter failed because of lack of cooperation due to inability or lack of desire on part of the manufacturers to meet the requirements and standards of the department which necessitated retooling, to some extent, of the factory. Evidently the sales volume did not warrant the change. But one firm did not think so and conformed to the requirements, resulting in, to my knowledge, a very nice sales proposition. It must have paid someone.

But these examples are of the more direct type and do not represent the more important ones of indirection; those cooperative problems which have

their inception in research and those which are the outgrowth of educational experience. These are the more generalized ones and are much wider in their scope and influence than the local ones.

Again may I cite an incident. The speaker, about a year and a half ago, completed a study on sanitary conveniences in schools of which you may have knowledge. One of the facts disclosed was that only about 15 per cent of the children used hand-washing facilities in schools. This was partly due to lack of equipment and partly due to the fact that the instruction in personal hygiene evidently does not function very well in most schools. These reasons in turn evidently have a very definite bearing upon the sale of liquid soap and towels. Mirrors placed above lavatories tend to restrict the latter’s use due to the time used in putting on “war-paint,” “stay-comb,” and other “slicking” operations in which our present youth, very young youth even, indulge. This feature does not cut down the sale of mirrors but it does cut down the use of paper towels. The distribution of toilet fixtures, their size, shape, etc., should also be more in keeping with facts of the case. The junior types of urinal have been found ample while the suspended type of water closet is more sanitary.

Among rural schools especially, through careful study and observation, it has been found that facilities for the storage of supplies, such as paper, chalk, and educational materials, are woefully neglected, leading to much waste and spoilage. This knowledge is a fruitful field for a cooperative job which should result in the sale of good, substantial storage cabinets. In new buildings, on the contrary, provisions for permanent storage are made, as a rule, and this matter does not apply in the same measure at all.

The use of the newer teaching techniques restricts the use of blackboards very materially, especially in those centers and schools where modern trends are most in evidence. The use of bulletin boards is on the increase and will continue to be so for quite a time to come. Observation shows that unbacked boards, cork board or lino-

(Concluded on Page 80)



NOISE • NOISE • NOISE



QUIET • QUIET • QUIET

NOISE

Leads the class in Multiplication

Noise, if allowed to romp through your school unrestrained, will teach you things about multiplication.

Noise can turn the sound of two footsteps into twenty—change cafeteria and manual training room racket into a perfect din—multiply and re-multiply spoken words until they're a jumble of meaningless sound.

But Noise is defeated when Acousti-Celotex is applied to the ceilings.

For Acousti-Celotex subdues distracting classroom noises—absorbs the racket in corridors, cafeterias, manual training rooms and swimming pools—quiets reverberation in assembly halls.

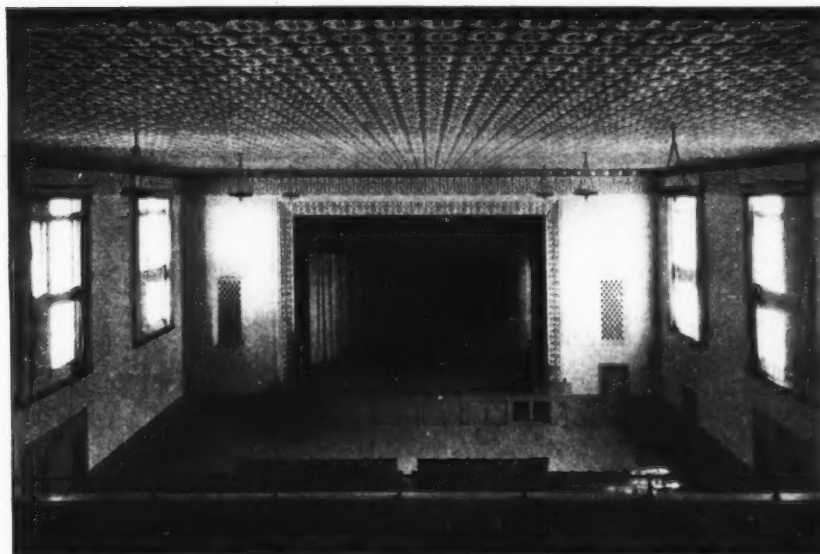
Acousti-Celotex comes in attractive tiles which are quickly installed in old or new buildings. No remodeling is necessary—the

tiles are applied directly to, and become a permanent part of, the old ceiling. They may be left in their natural buff color, or stencilled in desired patterns.

Acousti-Celotex is applied by Acousti-Celotex contracting engineers, trained in acoustical problems. The school architect or school board may secure their services for a survey without cost or obligation. Now, before the fall term opens, is a good time to thoroughly investigate this solution to your noise problem. For an appointment, fill in and mail the coupon below.

The Celotex Company, 919 North Michigan Avenue, Chicago, Illinois. In Canada: Alexander Murray & Co., Ltd., Montreal. Sales distributors throughout the World. Acousti-Celotex is sold and installed by Acousti-Celotex contracting engineers.

This Acousti-Celotex ceiling in the auditorium of Elmhurst Junior High School, Oakland, California, adds decorative beauty and provides perfect acoustics for assembly meetings, lectures, and entertainment. Architect John J. Donovan.



ACOUSTI-CELOTEX

requires no extra maintenance cost. The tiles may be painted the same as ordinary plastered surfaces, without danger of impairing their sound-absorbing value. The perforations shown in the close-up make this possible.

ACOUSTI-CELOTEX

FOR LESS NOISE—BETTER HEARING

The words Celotex and Acousti-Celotex (Reg. U. S. Pat. Off.) are the trademarks of and indicate manufacture by The Celotex Company.

Acousti-Celotex Service

A.S.B.J. 7-31

Fill out and mail to The Celotex Company for the appointment of an engineer to analyze your acoustical and noise problem. No obligation.

NAME
SCHOOL
STREET
TOWN STATE

Present Day Requirements Demand The HORN Selfold Partition

PARTITIONS built by inexperienced workers in the field could not embody even a small percentage of the knowledge of proper design and suitable capacities for different requirements that the Horn engineers have acquired from many years of actual experience.

"Or equal," or "just as good" cannot give Horn results, which are due to exclusive features, visible and invisible. It cannot be duplicated by cheaper partitions. Horn partitions are one of those outstanding items of equipment which compliments the architects who suggest it and proves a never-ending convenience to those it serves.



Horn Selfold Partition in New School Fort Lee, N. J.
Architects Ernest Sibley and Lawrence C. Licht, Palisade, N. J.
This partition 53 feet wide by 27 feet high.

Horn Folding Partition Company

Fort Dodge, Iowa

MANUFACTURERS AND INSTALLERS OF FOLDING PARTITIONS EXCLUSIVELY.

(Concluded from Page 78)

leum, for example, are not desirable as they buckle and warp badly. Here again a substitute such as "Masonite," "Insoboard," and others are being found and used increasingly.

A study is now in progress which will give us, you, a real insight into what is actually being used and required in the above direction. This, in turn, may mean a shift in equipment of various kinds and an expansion in other directions than black-board installations. Who will be in the vanguard and take advantage of the situation?

Studies and work such as those cited are continually being made and published. How many of you are familiar with them or have access to them? Is it worth while to know of them? Is there any advantage in collecting such material and pooling such knowledge to the advantage of all concerned? I believe the answer is self-evident.

May I become somewhat constructive in my remarks and give you my idea how your association may serve to advantage, not only your own members but school officials as well?

The Elimination of Waste

The elimination of waste, both from the manufacturing as well as from the consumer's standpoint, is economically of importance. It may for a time decrease sales from one angle but will be enduring in the long run. Besides, it has to come. The job may be done in a good measure by standardization. A very good beginning has been made, for example, in color standards for school seating in which members of your association played a very important part. But color is not sufficient. How about finish? Is a varnish surface best or a pyroxyline one? How many coats are really needed? What finish stands up best under the exacting wear of the schoolroom? Which finish leads to best refinishing later?

This is a problem similar to the accessibility of our automobiles where repairs are an important item. Should desk tops be built up of restricted widths of lumber, random or variable? Should joints be splined, matched, grooved, doweled, or what? Is beech as serviceable as maple or other hard woods, or will a composition serve best?

What finish should be put on steel frames or cast iron ones? Which is best from the standpoint of both service and cost, air drying or baked enamel or paint? Brushed, dipped or sprayed? Are frames to be cast from gray stove stock or will sash weight stuff do? Are present forms and types of seatings those demanded by the school experts, or are they used because they are on the market? How many school officials, those in authoritative positions, are familiar with Bennett's work on posture or take any particular interest in such a vital problem as fitting the desk and seat to the child. The reverse of this I find so self-evident in practice that I am willing to call it a physiological crime. Are your adjustable seats readily and properly adjustable so that such work may be done with a minimum of time and adequate results? On the face of the evidence and a careful study of such as anyone may make, the unbiased observer, like the Scotchman, will "hae his doubts" about adjustable seats. And I may continue in this vein *ad libitum*. These are just a few of the questions and problems with which many of you are confronted. If we have made mistakes in the past that need not be the case in the future if we have remedial material at hand or go after it.

Standardize Within Limits

There are any number of materials that you sell and which are on the market which lend themselves to standardization. How about paper? There is probably no group of commodities about which there is less known among laymen and educators than this. Trade terms are nearly unknown; weights are mostly abstractions; sizes and their relations to commercial practice are ignored even if known, and quality and the factors which influence it are—well, "they just aint." Of course there are exceptions, but as a rule these statements are true by far and large.

Will it pay to disseminate a working knowledge of these matters? Will it pay to standardize within limits, the materials of the paper industry used mostly by the schools? You may answer that yourself. But if undertaken it should be a co-operative job in which the consumer has a definite "say-so." I understand that your association has

such a movement already in contemplation, possibly already under way. Fine.

The matter of guarantees is another one which comes to the front constantly. And, as you know, it is one which is loaded with dynamite. Too often we hear, "This is a guaranteed product." What is guaranteed? Ah, there's the rub. If guarantees are to be written into your bids, your product or your selling, then write them out in English, in words of one syllable, if possible, and keep away from legal and involved phraseology. The simpler and more concise, the better. Here is a fine field for real service which your association has already rendered in part in some of the work which your laboratory has undertaken. The label of your association is already taking on a national significance in the purchasing world. But do not stop here—there is still much to be done. Let the good work go on.

Supports Clearing House Idea

I believe your association should act as a clearing house for spreading the important factors bearing upon your problems as set forth in the numerous researches and investigations constantly being carried on by school people and others interested in schoolwork. I appreciate that many theses are not published and frequently buried in the archives of some large university or institution.

Another work of great value is the matter of standardizing specifications; or rather clarifying them so that purchaser and bidder or seller know what it is they are talking about or what is required. Even if no extensive specification list is issued or standardization indulged in, a brief sample specification with explanatory notation of the principles involved in its making will prove of value to the school administrator. Your association has published a study of "Present Practice in the Purchase and Selection of School Supplies" which is a fine piece of work and extremely useful if one studies it and reads between the lines. It contains an "Illustration of a Bidding List." I hope this is not intended as a standard; it may exhibit common practice, but I certainly would hate to bid on it.

"We Recommend BLOXONEND Flooring in Unqualified Terms"

The handsome modern Shorewood High School was designed by Herbst & Kuenzli, prominent Milwaukee Architects.

SHOREWOOD PUBLIC SCHOOLS OAKLAND AVENUE AND EAST CAPITOL DRIVE TELEPHONE EDGEWOOD 4862 MILWAUKEE

OFFICE OF THE SUPERINTENDENT
H. S. HEMENWAY

March 3, 1931

Carter Bloxonend Flooring Co.,
332 So. Michigan Ave.,
Chicago, Ill.

Gentlemen:

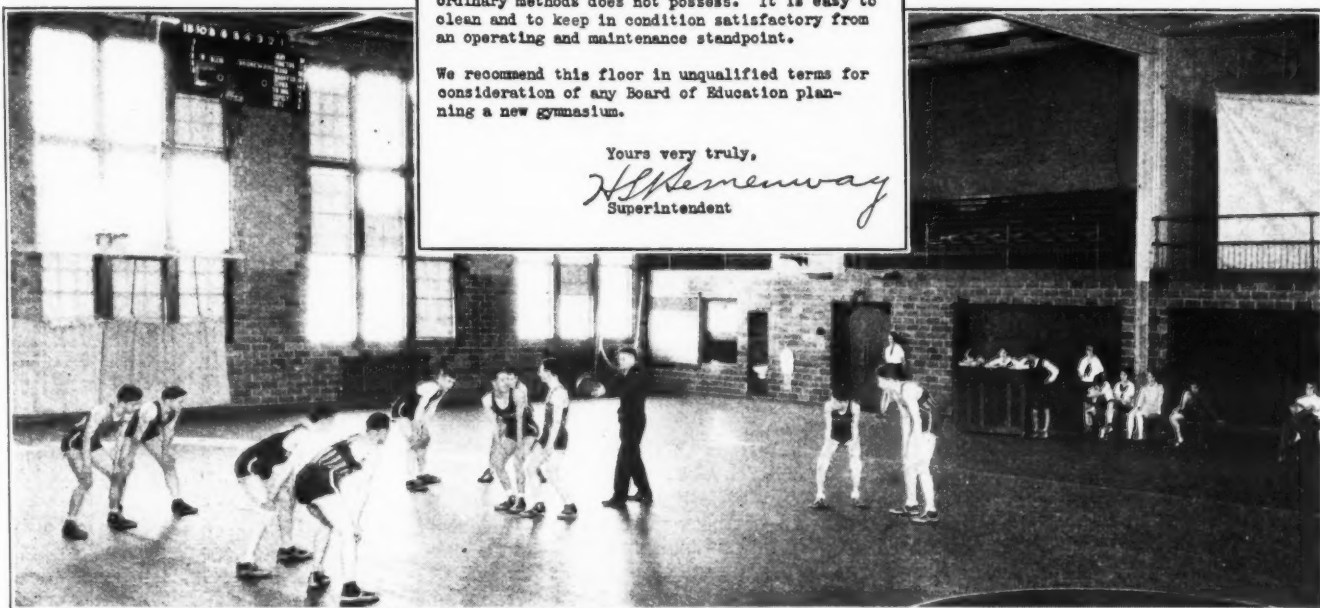
The Shorewood High School has used the Bloxonend Floor for the past four years. It has proved satisfactory in every respect. The Bloxonend Floor possesses a resiliency which the floor built by ordinary methods does not possess. It is easy to clean and to keep in condition satisfactory from an operating and maintenance standpoint.

We recommend this floor in unqualified terms for consideration of any Board of Education planning a new gymnasium.

Yours very truly,

H. S. Hemenway
Superintendent

Genuine BLOXONEND Flooring is absolutely splinter-less and non-slip because the end-grain fibres form its surface.



BLOXONEND is specified for gymnasiums and shops by nearly all leading school architects. Informative illustrated booklet will be sent promptly on request.

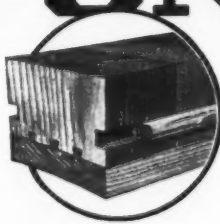
CARTER BLOXONEND FLOORING COMPANY

Kansas City, Missouri

Representatives in leading Cities

BLOX-ON-END FLOORING

Bloxonend is made of Southern Pine with the tough end grain up. It comes in 8 ft. lengths with the blocks dovetailed endwise onto baseboards.



**Lays Smooth
Stays Smooth**



This Wardrobe Has Everything You Want!

WIDE OPENINGS
SHALLOW DEPTH

DOORS OPEN
BACK TO BACK
SLATE PROTECTED

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*Formerly Progressive School Equipment
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Outstanding Prose-Maco Products: Swinging bookboard, Teacher's Combination wardrobe and restroom, removable, non-removable coat hangers, gravity book cases, umbrella stands, and the new erasex.

School Building News

A REPORT ON COAL CONSUMPTION IN THE CHICAGO SCHOOLS

Mr. John Howatt, chief engineer of the Chicago board of education, has issued a comprehensive report, showing the ten-year coal-consumption record for the Chicago elementary schools, in which the average coal consumption for the entire elementary-school system is reduced to the net number of tons burned per 1,000 square feet of floor area per year, based on the years 1921 to 1930, inclusive. The report shows that the record for 1930 is by far the best record from the standpoint of the number of tons of coal burned per 1,000 square feet in the past decade.

Ten-Year Coal-Consumption Record of the Chicago Elementary Schools

Year	Net Tons Coal Used per M. Square Feet	Mean Outdoor Temperature During Heating Season
1921	5.2	41.9
1922	5.7	39.2
1923	5.8	38.3
1924	5.9	35.4
1925	5.6	37.1
1926	5.9	36.6
1927	5.4	39.9
1928	5.3	38.3
1929	5.5	36.7
1930	4.8	38.1

Improved results in 1930 are due in part to the improved designs in the heating and ventilating systems, in part to the excellent quality of coal received on an average, but mostly due to an intelligent supervision and an interest in the economical operations of the plants on the part of the engineer-custodians in the buildings. Without co-operation, pride, and interest, even the best mechanical equipment will fail to produce expected results.

The coal bill, it was pointed out, is the largest bill for plant operation, and it is important that

it be kept as low as possible, without detriment to the health or comfort of those using the school buildings. Despite a large building program, executed during the past five years, the total tonnage used each year has increased very little.

NEW RESEARCH POLICY ADOPTED BY HEATING AND VENTILATING INDUSTRY

A new and comprehensive research policy has been adopted by the American Society of Heating and Ventilating Engineers, New York City, as a result of the experience of ten years in cooperative research. Centralized control will be continued through the chairman of the committee on research, with the assistance of a technical advisor, while the director of the research laboratory will have charge of all the investigations at the society's laboratory in the Bureau of Mines Experiment Station, Pittsburgh, Pa.

In line with the policy approved by the research committee, Mr. Arthur C. Willard, of the department of mechanical engineering, University of Illinois, has been retained as technical advisor for research. Professor Willard's work in heating and ventilating has made him outstanding in the profession and his advice will be invaluable in extending the scope of the society's research activities and in coordinating its data for practical application by the profession.

At present twelve problems are being studied at the research laboratory in Pittsburgh, or at the nine cooperating universities, and other investigations will be undertaken as approved by the committee on research.

BUILDING NEWS

♦ Bexley, Ohio. The school board has received bids for the construction of a new high school, to cost approximately \$375,000. In addition to 25 classrooms, the building will contain an auditorium, a gymnasium, a cafeteria, and a library.

♦ Freeport, N. Y. The school board recently sold a bond issue of \$560,000, the proceeds of which will go toward the erection of an elementary school and an addition to another school.

♦ Ithaca, N. Y. The corner stone of the Frank Boynton Junior High School was laid on May 28,

with a brief, appropriate ceremony. Brief, one-minute talks were made by Mr. G. L. Cook, Mr. Robert Lull, Mr. R. H. Jordan, Mr. C. L. Kulp, Mr. A. N. Gibb, and Mayor H. Bergholtz.

♦ Petersburg, Mich. The voters recently approved a bond issue of \$80,000 for school-building purposes.

♦ Spring City, Tenn. A new school building was occupied for the first time last year. The building was erected at a cost of \$111,000, and the furnishings cost \$25,000.

♦ The superintendent of school buildings of Philadelphia has made 21 recommendations in the improvement of school buildings. One of these is that 142 nonfireproof structures now used as schoolhouses be demolished and replaced by up-to-date buildings, and that 58 other old edifices be renovated so as to make them entirely fireproof. This does not mean that the 200 buildings mentioned are not safe.

♦ Mr. Al Shorey, formerly superintendent of buildings and construction for the board of education of Davenport, Iowa, has been appointed to the newly created position of superintendent of buildings and grounds. The position combines with his former duties those of school engineer. His salary was raised \$200 a year due to an increase in the responsibilities of the position.

♦ Gary, Ind. A reorganization of the city school board under an act of the legislature permitting Gary to operate under the same plan as before the city attained its 100,000 status has been approved by the city council. In the reorganization, the council reelected the three members of the board for terms of offices expiring at the termination of appointments made while the city was still under 100,000 classification.

Members of the board reelected are P. W. Seyl, president; Mrs. Adele M. Chase, secretary; Leslie I. Combs, treasurer.

♦ Lowell, Mass. Control of the use of automobiles by students of the schools has been adopted by the board of education. Permits for students to drive motor cars during school hours and in noon hours of school days must be obtained from the

(Concluded on Page 85)

Ten years from now



*this floor
will still
look new*

SCHOOLS today pride themselves on the attractiveness of their buildings. Clean, colorful, dignified floors are both an asset and an essential. Under the abuse of school service, no ordinary floor can retain its good appearance over a period of 10 years. But Johns-Manville Tile Flooring is not ordinary... it stays good looking... it thrives under heavy traffic... tests have shown that years of service actually improve its appearance.

Ordinary soap and water will effectively and quickly clean Johns-Manville Tile Flooring. Bacteria-breeding dirt cannot stick to its close-grained surface. Inks and ordinary acids will not stain it. Mud and water tracked in on rainy days do not mar it. You do not have to wax or polish J-M Tile Flooring to keep it

looking attractive and bright. You save in first cost—you save in maintenance cost.

Yet this hard-wearing floor is comfortable under foot. Its resiliency takes the click out of hard heels and hurrying footsteps. Above all, this floor is slip-safe for careless feet under all conditions.

Johns-Manville Tile Flooring is made in a variety of colors and with tiles both oblong and square to permit its adaptation to any decorative effect.



In classrooms, corridors, cafeterias and auditoriums, J-M Tile Flooring stands years of abuse which quickly ruins the appearance of ordinary flooring.

Johns-Manville Tile Flooring

We will gladly supply complete information on this low-cost flooring. Free booklet, "Johns-Manville Tile Flooring," will be sent you promptly. Either call the Johns-Manville local agent or address Johns-Manville, 292 Madison Ave., New York City.



TYPE A

THIS IS BALANCED LIGHTING THIS ISN'T



. . . which child has the better chance?

FOR BALANCED LIGHTING, WEIGH:			
Horizontal Light	vs.	Reflected Glare	
Vertical Light	vs.	Direct Glare	
Shadow Depth	vs.	Flat Shadows	
Maintenance & Design	vs.	First Cost	

Showing how various factors balance, for best results

Look at the "picture" of the light falling on these two children . . . Light can play strange pranks. Glare . . . shadow . . . dangerous eyestrain may be caused by otherwise excellent lighting units, if improperly placed. Engineers have found the most efficient school lighting to be a balance of many variable factors, such as intensity of illumination . . . type of fixture . . . location . . . costs . . . Hence *Balanced Lighting*, the scientific "yardstick" of the Graybar lighting line. Let Graybar's lighting specialists show you how to apply this "yardstick" to your problems. See coupon below.

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OFFICES IN 76 PRINCIPAL CITIES. EXECUTIVE OFFICES: GRAYBAR BLDG., NEW YORK, N. Y.

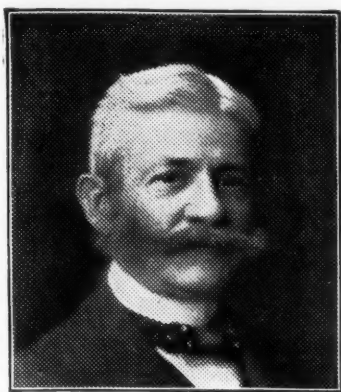
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A. S. B. J. 7-31

Gentlemen: We are interested in knowing more about BALANCED LIGHTING.

NAME ADDRESS



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To Reduce their cost
per Pupil per Year

has been and is being accomplished by the

Holden Book Covers

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Made of a specially prepared material to provide "Wearing Quality" and rendered both Waterproof and Weatherproof to maintain the necessary sanitary requirements.

Protect Books

Increase their Lives

Save Money

Samples Free

HOLDEN PATENT BOOK COVER COMPANY

Miles C. Holden, President

Springfield, Massachusetts

(Concluded from Page 82)

superintendent. Such permission will be granted only upon the written application of the students' parents.

♦ North Providence, R. I. The school board has ruled that an adult witness must be present whenever corporal punishment is inflicted on pupils. Teachers who do not obey the rule will face suspension for a week without pay or possible dismissal.

♦ Rye, N. Y. Two separate school districts in the village of Rye recently united in the erection of a Central High School, which will be completed and occupied next September. The building has been erected on a site of over 20 acres and plans are being made for a gymnasium and athletic field. The building was financed with an initial bond issue of \$750,000 and was followed with another issue of \$325,000.

♦ Lakewood, N. Y. The school board recently sold \$80,000 worth of school-improvement bonds to a Buffalo banking concern, at a premium of \$100,2493 and an interest rate of $4\frac{1}{4}$ per cent.

♦ Cobleskill, N. Y. The school board is planning the erection of a junior-high-school building, to accommodate 800 pupils. Mr. C. W. Clarke is the architect.

♦ The board of education of Grand Rapids, Mich., has decided to postpone all building operations until next year.

♦ Albion, N. Y. The voters of the school district have approved a bond issue of \$390,000.

♦ Little Falls, N. Y. A junior high school was dedicated on June 9. The combined junior and senior high school will open in the fall, with an enrollment of approximately 900 students. It is expected that the school will offer a diversified program, with a six-period day and supervised study.

♦ At Port Chester, N. Y., a million-dollar high school is in process of construction. The board of education has issued a folder which gives all the cost figures as well as the data on capacity and the like. The site occupies 23 acres and cost \$242,000. The furnishings, including athletic field and stadium construction, cost \$350,000. The building will be ready for opening January 1, 1932.

♦ Morristown, N. J. The voters recently approved a school-bond issue of \$300,000 for the erec-

tion of an elementary school. The bonds which will mature in 40 years have been sold to a banking concern at a rate of 3.97 per cent.

♦ Great Neck, L. I., N. Y. The voters recently approved a school-bond issue of \$125,000 for an addition to the Kensington School.

♦ Pittsburgh, Pa. In awarding contracts for new school construction, repairs, and improvements at various schools amounting to more than \$290,000, the school board has started work on a school-building program estimated to cost \$1,166,400.

SCIENTIFIC SCHOOL LAWMAKING

"Educational legislation is slowly adopting scientific methods of procedure," says Ward W. Kee-secker, of the United States Office of Education. "The practice of legislatures to employ experts to conduct state-wide studies or investigations to obtain data on educational conditions as a basis for formulating legislative and administrative policies affecting the schools continued unabated during the biennium; it is the most outstanding general feature in recent educational legislation."

He further says: "Critical public opinion, demanding economy and efficiency, and the growing science of education favor this practice. During the year 1929 more than a dozen state-wide educational investigations or surveys were provided for by legislative action."

"California provided for a state commission of nine to investigate the geographical, financial, and organizational problems of public education, and appropriated \$50,000 for this purpose."

"The Delaware legislature authorized the governor to appoint a committee to investigate conditions relative to a teachers' retirement fund, especially as to whether the state could bear the expenses of such a system, and to report to the next legislature."

"Pennsylvania created a commission of 10 members for surveying the present plan of financing public schools and provided that the investigators, experts, and other employees necessary for the survey be provided by the State Department of Public Instruction, and appropriated \$10,000 for this purpose."

"Iowa authorized a survey by the State Superin-

tendent of Public Instruction concerning handicapped children, and appropriated \$8,000 therefor.

"Indiana made provision for the appointment of a commission selected by the governor to (1) investigate the number, condition, organization, control, maintenance, and efficiency of joint and consolidated school districts, with a view of standardizing, unifying, and codifying the existing laws applicable thereto; and (2) to report results of such survey to the next legislature with the form of such bills for legislative approval as deemed necessary for improvement of existing laws."

"Kansas created a commission to study the number and condition of handicapped children and disabled adults, and appropriated \$15,000 for this purpose."

"Maryland provided for a commission to investigate higher education in the state and to recommend a state policy with respect thereto and a plan for carrying out and financing such policy."

"Massachusetts created a commission to study the question of increasing school-attendance requirements and appropriated \$5,000 therefor."

"Michigan created a commission to survey the state educational system."

"Missouri created a state survey commission of seven to study and investigate the financial resources and needs of the several departments of the state government, including the educational institutions and the public-school system and the facilities afforded to each child of whatever race to secure an education, and to report to the governor thereon."

"The New Jersey legislature of 1929 and 1930 continued the survey commission created in 1928 to study the public schools and educational institutions and to recommend a comprehensive program of public education and sources of revenue for its support."

♦ M. J. LEINENKUGEL was reelected president of the Eau Claire, Wis., board of education. A. C. NORDLIE was chosen vice-president.

♦ GUY COOK and MRS. H. P. CHAFFEE were reelected members of the Carrington, N. Dak., school board.

♦ C. ARTHUR KRILL and MRS. LINRIE A. GILL have been reelected members of the Kalamazoo, Mich., board of education.

Book News and Reviews

The Textbook in Modern Education

R. A. McGee, Marshalltown, Iowa

No one will probably question the statement that next to the teacher, books, and especially textbooks, constitute the most important element in modern elementary and secondary education. This is true regardless of the professional status of the teacher. The untrained teacher needs a text as a guide and a help, the skilled professional teacher needs it as an effective tool. It, therefore, would seem worth while to scrutinize the source and methods employed in the production of so important an agency of education with the view of determining the adequacy of the present situation and the forces at work which seems to point toward the professionalization and general improvement thereof.

It is admitted that in the past decade we have entered upon a new era in education. I refer particularly to the scientific movement with its coincident changes in school organization, curricula, content of courses, teaching methods, and teacher attitude. It is hardly necessary to mention the fact that we are going through rapid and important social and economic changes which constantly impinge themselves upon all agencies of social control of which the school is of first importance.

Now these changes being suggested by educational scientists and modern philosophers can filter down into everyday school practice in only two major ways. First, through teacher training, both in institutions and on the job; and second, through the preparation and wide distribution of up-to-date educational aids in the form of textbooks, outlines, tests, standard lesson sheets, and other similar educational tools.

The first of these influences for betterment is being carried out as rapidly as could be hoped without seriously disrupting the educational personnel. The second is moving very slowly and, although some very excellent texts have appeared in the past two or three years, publishers still continue to print books which are woefully inadequate in view of modern educational knowledge and up-to-date practice. There are many reasons for this. Not the least of these is the fact that the teacher who is mature and experienced enough and has time enough to write a textbook is likely to be ten to twenty years behind the best educational thought, while on the other hand the man qualified by virtue of recent professional training, experience in scientific method and the like, frequently lacks teaching experience, detailed knowledge of subject matter, and practical contacts with life. And finally he regards commercial publication of text materials as an activity of lesser worth than research and professional writing. Consequently, the manuscripts which find their way voluntarily to the editors' desks are not usually prepared by people best qualified for the job. By the very nature of the educational set up, the individual man who is wholly qualified and willing to write a text in a given subject for a particular market can scarcely be said to exist.

All of this leads me to believe that to the degree we put into practice newer educational theory, to just that degree are we going to be compelled to thoroughly revise our methods of approach in the construction and compilation of the school's most important tool, the textbook.

We are now in that period of transition. Some major changes have already been made, others are being made, while still others are yet to be

started. To save space and much discussion, the situation can be shown roughly by means of contrasting statements, the first series representing the past and the second the future with the present in between, sometimes best described by the statement in the first series, sometimes better by the second, and other times lying in a middle ground. No special attempt will be made here to put the items of the tabulation into any kind of logical arrangement. They should merely be regarded as a miscellaneous list of comparative statements regarding the past, present, and future of textbook making.

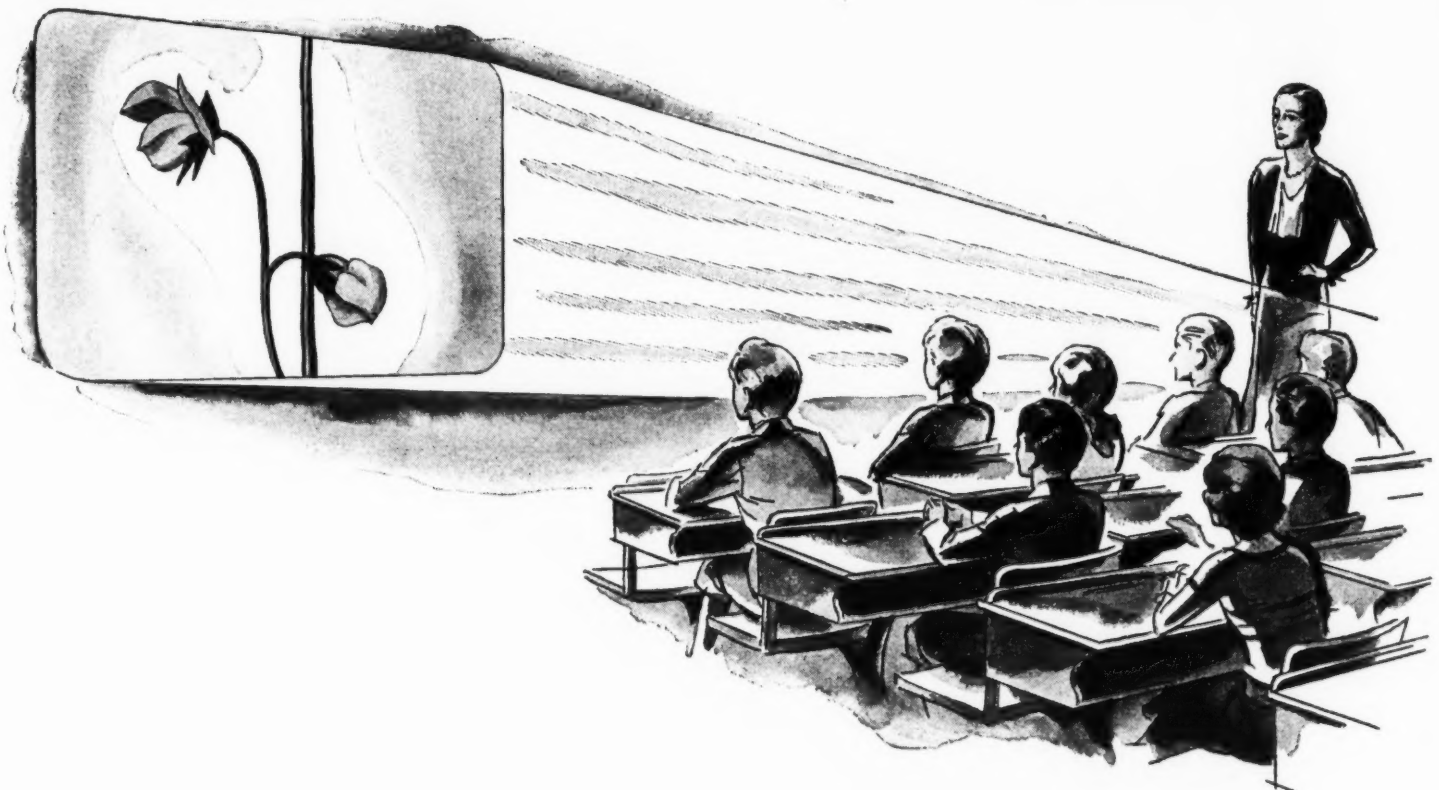
Changes in Textbook Making Past

1. Publishers printed manuscripts on hunches. Sometimes they sold. Always they were at least partially inadequate.
2. Publishers accepted or rejected such manuscripts as were offered voluntarily. Comparable to an industrialist hiring only such people as apply for jobs at his gate.
3. Publishers employed few people really qualified to judge all the aspects of text materials.
4. Publishers accepted educational validity of text content submitted by individual authors.
5. Publishers have been content to publish much rehearsed conventional material which has in no wise been an improvement over existing publications.
6. Publishers have allowed many unbalanced books to be printed because of the hobbies, bias, and idiosyncrasies of individual authors.
7. Authors have been self-selected.
8. Authors were seldom the best thinkers or teachers.
9. Authors were actuated by the hope and desire for professional publicity and private gain.
10. Authors' returns were uncertain and long deferred.
11. Authors of public-school texts were often not highly regarded as scientists and thinkers in their respective fields.
12. Authors were frequently those having great knowledge of content but little knowledge of the students in the educational level where the text was intended to be used.
13. The content of texts was organized on a logical basis with little recognition of educational methods or psychological facts.
14. Little or no recognition was made of the varying capacities and interests of individual pupils.
15. The rhetorical presentation was dry and uninteresting.
16. Many generalities were expounded in the abstract with few applications from practical life.
17. Illustrations were few and unnatural in appearance.
18. Content was frequently written "above the students' heads."
19. Printing and binding were cheap and unattractive.
20. Teacher has been left to his own devices in the use of such textbooks as came to his hand.
21. A text was frequently used for ten to twenty years with little or no revision.
22. School officers refused to expend important sums of money on textbooks. Price was frequently more important than quality.

Future

1. Publishers will study markets in light of best educational theory and popular practice. Teacher, pupil, and administrator demands will all be examined in a scientific manner.
 2. Publishers will rewrite and reorganize good technical material to suit known markets. Publishers will actively hunt for qualified authors or will employ a corps of people to write the materials for which a known demand exists.
 3. Publishers will employ part- and full-time technicians, writers, educators, and teachers to criticize, organize, write and rewrite text materials.
 4. Publishers will insist and demand proof that text materials shall have had a real trial under normal school conditions before publication.
 5. Publishers will study social, industrial, and commercial activities to discover new content.
 6. Publishers will study economic, social, and educational life and insist on texts of balanced emphasis.
 7. Authors will be selected and directed in their work by the publishers.
 8. Authors will be the best qualified people available who can be influenced to undertake the work of authorship.
 9. Authors will be those already having professional position for the most part. Gain and desire to serve will be the chief incentives.
 10. Authors will be paid an initial lump sum to prepare certain specified manuscripts and relatively smaller commissions on subsequent sales.
 11. Only those highly regarded and eminently qualified will be permitted to write for publication.
 12. Authors will write texts for the educational level in which their individual experiences lie.
 13. Texts to be designed for use with certain new but well-defined and widely accepted methods of instruction. Organization will be psychological and educational.
 14. Texts will be made flexible to meet the needs of groups varying widely in interests and abilities.
 15. The new text will be written in a lively, interesting style. It will be vital and full of points of human interest and appeal.
 16. Generalities will be given a subordinate position. Applications and specific examples will occupy the center of the stage.
 17. New texts will be profuse with interesting, attractive, and instructive illustrations.
 18. Content will be written and verified for the age and grade level for which the book is intended.
 19. Printing and binding will be suitable, attractive, and of good grade.
 20. Each textbook will be accompanied with a teacher's manual which will provide detailed instructions for the effective use of the text.
 21. All successful texts will require complete revision every three to five years.
 22. School officers will demand the best in text materials that professional knowledge and skill can produce and will accordingly pay the necessary price.
- In conclusion it is probably safe to make several general statements about the future of school textbooks which may well be hoped for if not definitely predicted.
- First, textbooks and other similar educational publications will continue to take a more and more important place in schoolwork. Where texts are now used, more and better ones will be employed. Where no texts are now found, as in many practical-arts courses, adequate ones will be supplied and used with intelligence.
- Second, texts used will be of a more superior quality than the majority of those in present use. Authors will be better qualified. Publishers

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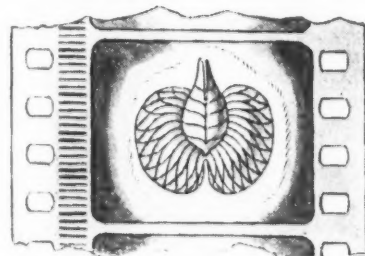
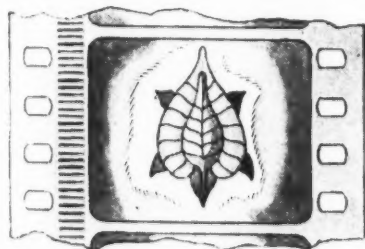
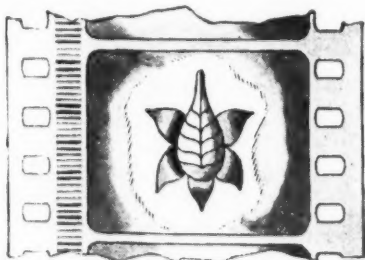
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(Concluded from Page 86)

will assume a more professional attitude, for only by this means will they be able to get the business. School officers will demand better books and pay better prices for them.

Third, texts will be regarded as tools of teaching methods rather than compilations of information. That is, the major emphasis in writing will be shifted from content to use.

Fourth, teachers will make more intelligent use of texts. The basic reason for this will be the constantly increasing standards of training and education for teachers. They will demand better books. Better books will be produced. Having better books, better teachers will make better use of them.

BOOK REVIEWS

General Business Training

By Ernest H. Crabbe, A.B., and Clay D. Slinker. Cloth bound, 506 pages. Published by the South-Western Publishing Company, Cincinnati, Ohio.

Here is a comprehensive textbook on training in the methods, technique, and usage employed in the business world. The authors, who are experienced commercial teachers, have brought to their subject the advanced ideas of those engaged in that field of education. The basic thought in the formulation of this textbook is that nontechnical values in junior business education must be emphasized.

The introductory chapters deal with money, banking, and credits. The student is initiated not only into the mechanics that are involved, but is impressed with the cause and effect as applied to the ordinary financial transactions. Then follow chapters on the use of the telephone, telegraph, mail, express, freight, and travel, and their relation to business and its needs. Instructive lessons are also provided in the matter of thrift, personal and family budgets and records, investments, and the like. Life and fire insurance, too, receive adequate attention.

The intricacies of correspondence, records, filing are well treated. Sources of information, how to discover them and utilize them, come in for atten-

tion. The subject of salesmanship and office positions is covered in two chapters. The closing pages are devoted to business organization and to business law.

Every chapter is followed by a series of problems for class discussion.

Health on the Farm and in the Village

By C. E. Winslow. Cloth, octavo, 290 pages. Price, \$1. The Macmillan Company, New York, N. Y.

The health program in Cattaraugus County, New York, inspired and guided by the Milbank Foundation during a period of seven years has been the most impressive application of the best practice in health service to a rather compact rural community. The study of the program as carried on under the direction of the author permitted of a careful analysis of the local situation at the beginning and end of the period, and showed conclusively the effectiveness of the various theories, practices, and current tendencies in public health control and promotion. The present book summarizes the findings in a very satisfactory and readable form. It is easy to agree with the final conclusion of the study; namely, that rural folks should be guaranteed an equal share in the fruits of medical and sanitary science with other citizens of the nation.

Fundamentals of Retail Selling

By R. G. Walters and Edward J. Rows. Cloth bound, 448 pages. Published by South-Western Publishing Company, Cincinnati, Ohio.

The salesman is the warrior who is constantly on the firing line of commerce. Upon him may depend the rise or fall of a business enterprise. His task involves judgment, tact, and skill. He is necessarily a psychologist. He must read his customer, note his needs, habits, and temperamental peculiarities. He must be actuated with the spirit of service.

The authors in proceeding upon the making of their book lead the student into the science of salesmanship by explaining first of all what retailing really means. The economics involved in business are analyzed. The difference between real salespeople and mere robots is fully explained.

A chapter is devoted to the attributes and

qualifications that constitute the essence of successful salesmanship. Here the authors enumerate the capital which the salesperson employs in an important calling. The subjects of personality, appearance, health, honor and truthfulness, industry, language and voice, tact, courtesy, loyalty, memory, and enthusiasm are well discussed.

The student, too, is told what the opportunities for promotion, a widened service, and other factors making for success. He is cautioned against the use of bad English and vulgar slang, with the thought in mind that an unfavorable impression made upon the customer is not likely to promote a sale. The salesman must know something of the purpose of the customer, he must know the merchandise he is trying to sell, and finally he must employ the arts of salesmanship in all its essential phases. Thus, the authors carry their students to the other side of the sales counter in order to see what the customer's reasoning, viewpoints, and desires may be.

Instructive chapters are provided, dealing with such information as the customer may desire, the manner of answering objections, and the closing of a sale.

Stories from the Poets

By W. B. Fern. Cloth, 144 pages. Price, \$1.50. Thomas Y. Crowell Co., New York City.

The author has attempted to do for 25 poems what Charles and Mary Lamb did for Shakespeare's plays. Most of the stories are distinctly interesting, but some lose altogether the flavor and poetic charm of the originals. The last story, "The Jackdaw of Rheims," spoils an otherwise good collection.

The Magic Canoe

By Frances Margaret Fox. Cloth, 271 pages. Published by Laidlaw Brothers, Chicago, Ill.

Here is a book for fourth and fifth reading, full of interest, adventure, and excitement. It is neatly illustrated.

Betsy Ross, Quaker Rebel

By Edwin Satterthwait Parry. Cloth, 266 pages. Price, \$2. Published by The John C. Winston Company, Philadelphia, Pa.

The romantic story of the maker of the first American flag is well told for girls. The merit of

(Continued on Page 90)

The Acid Test

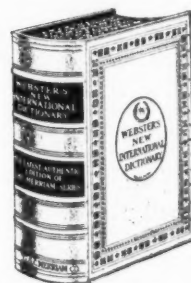
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(Continued from Page 88)

the book lies not only in bringing forth an interesting chapter in the nation's history, but also making the chapter more complete than this has been done in previous publications.

Studies in the Nature of Character

By Hugh Hartshorne, Mark A. May, and Frank K. Shuttleworth. Cloth, 504 pages. Price, \$2.75. The Macmillan Company, New York City.

A summary of results obtained by tests of the character tendencies of boys and girls, made by the Character Education Inquiry, Teachers College, Columbia University. The results are not distinctly conclusive and mean little to the uninitiated.—A.C. Buros *Spelling Workbook*

By Oscar K. Buros. Paper, 40 pages. American Book Co., New York, Chicago.

The common criticism of workbooks as "props" for lazy teachers cannot be directed against this cleverly arranged scheme for repetition and drill in spelling. Teacher and pupil must cooperate to determine what words the pupil must repeat and test and retest until mastery is gained. The book provides only the mechanical means for insuring systematic attention to the problem, but it does so most effectively.

The Prognostic Value of Certain Factors Related to Teaching Success

By Roy Roland Ullman. Cloth, 134 pages. Published by the A. L. Garber Company, Ashland, Ohio.

This scientific study sought to determine the predictive values of (a) practice teaching, (b) socio-economic status, (c) academic marks, (d) professional marks, (e) social intelligence, (f) general intelligence, (g) interest in teaching, (h) knowledge of the principles of teaching, as related to success in teaching. The author found "practice teaching" the best single measure, and learned that errors of prediction are frequently due to factors of personality, health, vitality, types of teaching, and nature of the school.

Capital Outlay in Relation to a State's Minimum Educational Program

By Foster E. Grossnickle. Cloth, 68 pages. Price, \$1.50. Bureau of Publications, Teachers College, Columbia University, New York, N. Y.

A technique for formulating a state plan for equalizing school capital outlays.

Class Size in High School English

By Dora V. Smith. Cloth, 309 pp. University of Minnesota Press.

This volume, while having as its main purpose the analysis of results of an experiment carried on by the author, gives much space to a discussion of the problems involved. Chapter I states the present situation. Increase in school attendance, educational requirements, efficiency of teachers, and teachers' salaries, together with a determined resistance to increase in taxation have driven school administrators to the expedient of enlarging classes.

Miss Smith first summarizes some 40 previous studies, the conclusions of which, due to a lack of control, she would not consider final.

"The measurable results of instruction bear little observable relationship to the size of class in which pupils are taught.

"Though experimenters do not agree concerning the influence of an individual teacher upon achievement in large and small classes, the bulk of the evidence now available shows that, regardless of the ability of the teacher, large classes appear to learn as much as small ones.

"Practically no evidence exists as to the effect of increasing class size upon the average teacher load. Experimenters, with two exceptions, have taught large classes, without an increase in the total number of pupils met during the day."

The Present Study

The purposes of Miss Smith's study were: "To discover the effect of the size of the class upon the efficiency of instruction in ninth-grade English, and to devise techniques whereby a large group may be handled effectively with a minimum of waste of time and activity and a maximum of attention to and response from the individual."

The experiment was carried on in the University High School of the University of Minnesota during the years 1925-26 and 1926-27. One class of 20 or 21 pupils and one of 51 were taught by the same teacher. The 20 or 21 pupils in the control group (small class) were paired closely in intelligence, sex, age, and specific abilities in English with

20 or 21 of the pupils of the experimental group (large class).

The author gives, in Chapter IV, the following summary of her conclusions regarding the average achievement of pupils in her experiment:

"1. First the efficiency of instruction was independent of the size of the class in grammar, punctuation, capitalization, mechanics of reading, and composition exclusive of letter writing.

"2. The small classes were definitely superior in letter writing and library methods." [It seems that facilities available were not adequate for the larger classes in library methods.]

"3. Large classes were decidedly advantageous to progress in spelling, increase of vocabulary, knowledge of literature, and extent and variety of reading activities, including initiative in unsolicited contributions to classroom projects, amount of voluntary reading, and general spirit and enthusiasm for the work."

Being of the opinion that "the central tendency of a group may be a very inadequate measure of the individuals within it," Miss Smith devotes Chapter V to a comparison of records of the individual pairs of pupils. After making these comparisons in detail for each subject, she says:

"The results summarized above indicate rather clearly that, in a number of instances, progress was more consistent in the small classes than in the larger groups. They indicate equally clearly that large classes are peculiarly stimulating to a certain group of pupils who, under the spur of the competition of numbers and the excitement of 'doing things together,' reach heights unattained by any pupils in the small classes. From the standpoint of future leadership in our country and the stimulation of certain pupils to achieve up to maximum capacity, this may be an important discovery. On the other hand, there is no evidence in this experiment that the lowest pupils in the large group are inferior in achievement to the lowest pupils in the small class. . . . If they [these conclusions] are corroborated, the problem of the relative value of a smaller gain by a greater number versus a larger gain by a small number will still remain for the administrator to solve."

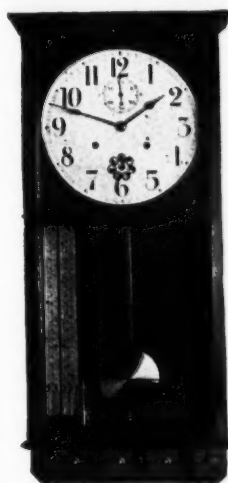
(Continued on Page 92)

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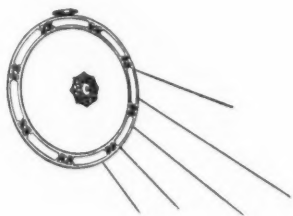
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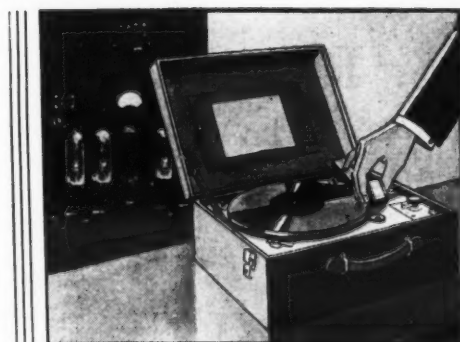
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(Continued from Page 90)

The author also tells of her effort to determine what effect the size of class had upon pupils of different I.Q.'s. These findings, as she says, cannot be of great significance because all the pupils tested were of high rating (90-125 or above). This analysis, however, tends to show that weaker pupils are likely to make slightly better progress in smaller than in larger classes.

Techniques of Instruction

Miss Smith stresses the importance of techniques of instruction in the successful management of large classes. The problems considered are: Methods of caring for routine; importance of teacher's preplanning and assignment; problem of pupil participation; necessity for motivation; recognition of individual differences; testing program as a check-up on results.

Caring for routine will not be found a difficult task. In this experiment, group leaders reported attendance and collected and distributed papers almost as speedily as in a small class. The teacher made use of the bulletin board, the typewriter, and the mimeograph in putting information and announcements before pupils and in getting pupil's signatures for choice of topics, etc. She found it absolutely necessary to be quite specific in giving instructions regarding change of seats and order of procedure.

For maximum participation, the group method of recitation was used frequently. Certainly "such a procedure involves much careful planning by the teacher and pupils several days in advance of the lesson." For example, in reporting upon topics, if there were to be six groups, only six pupils could choose any one topic. The list of topics was posted and each pupil signed for a topic. Then the groups were arranged by the teacher so that each topic would be treated by one pupil in each group. Each group elected a leader and was assigned a definite meeting place in the room. Miss Smith assumes that some method similar to this is essential for maximum pupil participation in a large class.

The author admits that six groups of pupils reciting at the same time in one room, each in charge

of its own leader and all under the general supervision of the teacher, creates considerable noise and some confusion, but she does not consider this poor discipline.

In regard to the strain on the teacher in a large class, the author says: "Two observers noted that though the teacher never once sat down during the class discussion in the large class, she often did in the small one. There can be no doubt that the teacher herself entered the large class with more of a feeling of responsibility and with a greater sense of adventure than she did the small one. If things went well—for instance, if a spirited contest was under way or if group work or an activity program threw the responsibility on the pupils—her whole feeling was one of enjoyment and exhilaration. On the other hand, if less interesting activities were engaged in or inattention and restlessness crept in, her sense of strain and responsibility was similarly great because of the increased number to control and the mob psychology of the situation. The work of the course was so organized, however, that the former experiences much outnumbered the latter."

The problem of motivation and consequent pupil participation seems to have been made easier of solution in the large than in the small class. Motivation was secured chiefly through the use of (1) variations of the contest idea, (2) projects, (3) a modified contract plan in literature, and (4) devices leading to self-competition.

The recognition of individual differences, as the author remarks, is a major problem in a large class. Pupils were required to note and diagnose their own errors. When the class met in groups, bright pupils were seldom placed in charge of weak ones; the teacher went about assisting groups. When some pupils had failed to master a unit of work they were put into a special group in charge of the teacher while other groups were controlled by their leaders. Often pupils who did not understand a given lesson very well were permitted to take seats in the front row, during a regular recitation, in order to be questioned and helped by other members of the class.

In the large class, very frequent tests were given. They were usually short, consuming about 8 min-

utes and were usually mimeographed. Most of them were corrected by the pupils, but the teacher recorded the grades later and looked over the papers for a knowledge of individual difficulties.

Conclusions

Some of the conclusions that one may reach from a study of this experiment are:

Success in teaching depends more upon the ability of the teacher, methods used, and the personal characteristics of the pupils than upon the size of the class.

A large class fosters enthusiasm and alertness on the part of pupils and teacher, but requires more careful planning and checking of results.

The recitation of a large class, especially when the group method is used, involves a considerable amount of noise and confusion. The observers, with only one exception, said emphatically that they felt the large class to be the harder to manage. The author says, however, that: "An activity or contest program made the large class as easy for the teacher to handle as the small one, though more noise and confusion obtained when 50 pupils 'did things' together."

A material saving in cost may be effected by persuading competent teachers to manage several large classes and providing clerical assistance for the correction of papers.

We need further research to determine whether large or small classes are better for the pupils. The present work hints at some of the less tangible products of education which are harder to measure than the ones primarily considered. For example, does the small class tend to develop courtesy and politeness much more than the large one?

The reviewer would suggest the question whether the average teacher should be expected to succeed as well with a very large class as he can with a small one; and further, whether any teacher who has not sufficient enthusiasm, alertness, and personality to manage a large class should be considered unfit for teaching.

The matter of economy in teachers' wages, most educators will agree, should be a secondary consideration. If large classes seem to be best for the pupils, they should be adopted more generally, but,

(Concluded on Page 95)

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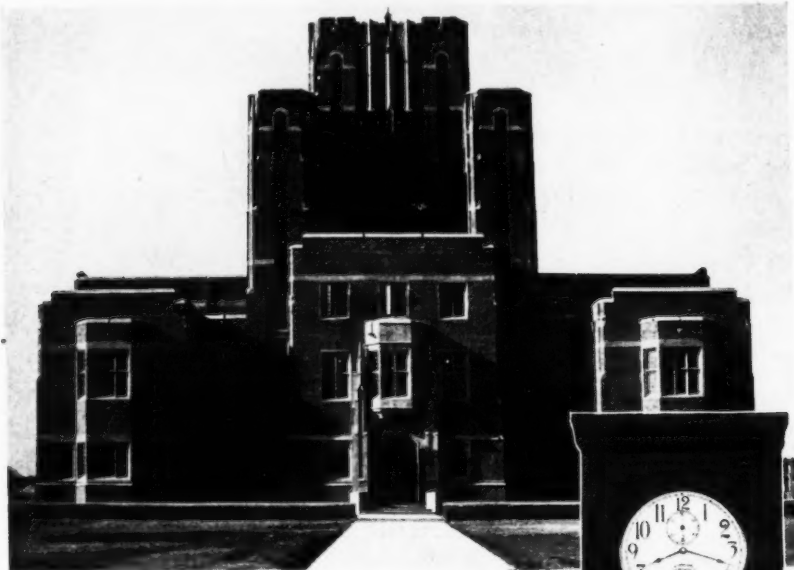
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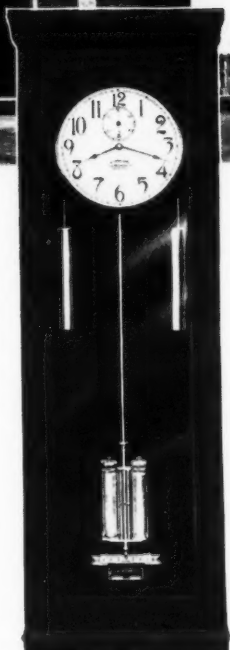
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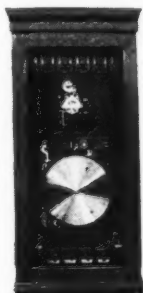
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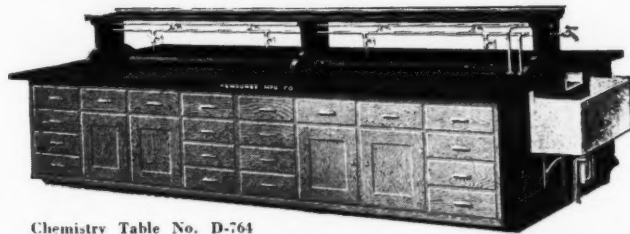
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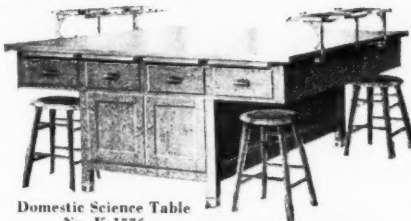
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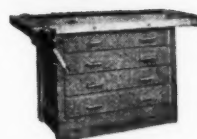
Chemistry Table No. D-764



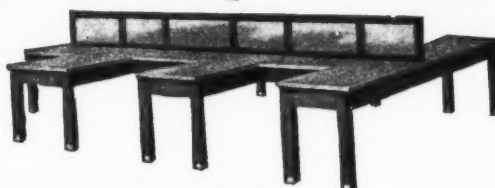
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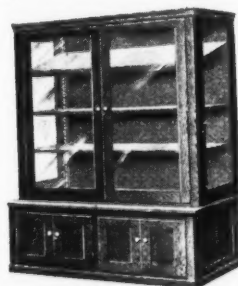
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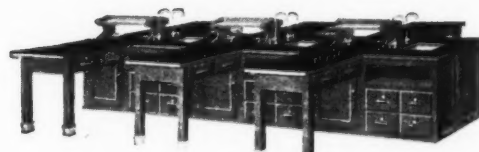
Manual Training Bench
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Library Science Desk No. D-503

(Concluded from Page 92)

some economists may object to adopting them merely for economic reasons, when such a procedure would increase the army of unemployed persons. Unemployment is due partly, to say the least, to the very system of mass production in industry which an increase in size of classes would tend to bring into the schools.

School administrators will be interested in this interesting contribution to a very live present-day problem. Teachers of English (especially in the ninth grade) will find many hints for their work. Miss Smith gives detailed plans for a number of projects and, in an appendix of 83 pages, gives the tests she used together with literary and composition units and various helps and devices.

Children of Our Wilds

By Lou Villinger. Cloth, 152 pages, illustrated. Price, 75 cents. Published by Beckley-Cardy Company, Chicago.

A collection of nine true stories of North American wild animals told interestingly for children in the lower grades. It is illustrated with photographs.

AMONG BOARDS OF EDUCATION

♦ Two days after her appointment as a member of the school board of Darrington, near Everett, Wash., Mrs. Lucille Butler resigned. She believed that she could not agree with the other two members of the board on school policies.

♦ The Chicago board of education has been asked by Mayor Cermak to resign. The *Chicago Tribune* says: "They have refused to do this, although they have endeavored to conciliate public opinion by promises to act in harmony with the new administration. The promises properly are disregarded. The board has left no ground for confidence. It is suspect on its record and its past source of authority that negates any usefulness to which it may pretend. It is the creation of a city hall period which nearly ruined the city. It was not independent of that period but a part of it. Some of the most notorious acts were its own. The only public service the board can offer is its resignation. It can depart and permit the reorganization of the school affairs. Nothing else will serve."

♦ The Los Angeles board of education has recently revised its rules to prohibit compensation to teachers for private coaching of pupils. The rules forbid any teacher to give private instruction for pay on any school premises. In promulgating the new rule, Superintendent Bouelle has explained that it is a part of the general school program of Los Angeles to give pupils such remedial work as may be found necessary in each case. The schools are not doing their full duty if they are not caring for such boys and girls as do not make satisfactory progress under normal classroom conditions.

♦ Chicago, Ill. The school board has adopted a report of the special committee on lunchroom funds, providing that banks in which lunchroom funds are deposited shall be required to furnish a corporate surety bond, to be approved by the school-board attorney, in the full amount of the deposits. This board shall guarantee payment of the deposits to the depositors, and to run to the various depositors, or their successors, in whose names the funds are on deposit. Where a bank does not furnish the said bond within the required time, the funds may be withdrawn and redeposited in a bank prepared to furnish such a bond. The premium and the bonds is to be paid out of the funds on deposit on the various banks.

♦ The board of education of Galesburg, Ill., agreed to maintain the present salary schedule. The Lakewood, Ohio, school board will maintain the automatic salary increase. The Davenport, Iowa school board has decided not to cut salaries.

♦ Kent, Ohio. The school board has suspended the customary salary increases for the teaching staff. The action was taken to meet an anticipated shortage of funds due to delinquencies in tax payments.

♦ Minneapolis, Minn. The school board has approved a report of the salary-schedule committee, providing that the automatic increases be suspended until financial conditions permit the resumption of the payment of such increases. The committee pointed out that the suspension would be only temporary and is not to be considered an abandonment of the salary schedule.

♦ East Cleveland, Ohio. As an economy measure, the school board has eliminated the positions

of assistant principal and supervisor for the next school year. Under the plan, the places of eleven teachers who resigned will be filled temporarily by the assistant principals and supervisors.

♦ Santa Cruz, Calif. The school board has adopted a new basic salary schedule for incoming teachers and has designated the amount of training necessary for certain positions. The maximum salary has been raised \$60.

♦ The new members of the Rockford, Ill., school board are Arthur R. Crumb and J. D. Van Driesen.

♦ Mrs. Jessie S. Fande and Allen Locke were re-elected members of the Ionia City, Mich., school board without opposition.

Hubert L. Mills Honored

Hubert L. Mills, business manager for the schools of Houston, Tex., was recently given the degree of doctor of laws by Southwestern University at Georgetown. The degree was given in recognition of the distinguished achievements of Dr. Mills, who has received national acclaim as a school-business administrator.

Dr. Mills is the only southern man to be chosen president of the National Association of Public-School Business Officials. He acted as chairman of the business administrators' conference at the National Education Association conference at Detroit last February.

Dr. Mills was elected business manager of the school board in 1923, and has been reelected unanimously at the end of each two-year term. Recently, the school board unanimously reelected him to the position, and extended his term to four years as an indication of its confidence and good will.

♦ Ohio appointments: Rockbridge, W. C. WATSON, principal, Rockbridge high school; Gloucester, L. G. DE LONG, principal, high school; Pike County, J. E. WAY, superintendent; Mifflin, N. A. CHADWICK, principal; Winchester, C. O. WILLIAM, superintendent; Ottowa, T. I. CURTIS, superintendent; Butler Township, GEORGE H. DONGES, superintendent; Leipsic, A. E. SHIVELY, superintendent.

♦ ELWOOD A. BERRY was elected member of the school board at Mount Lebanon, Pa.

The new members of the school board of Racine, Wis., are W. F. MACGREGOR and O. T. JACOBSEN.

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School Law

SCHOOL BOARD VERSUS CITY COUNCIL

An interesting case in which the rights of the school board and city council came into conflict was recently decided by the supreme court of Wisconsin. The board of education of Racine brought suit against the common council, compelling that body to issue bonds in the amount of \$350,000 for a new schoolhouse. The common council refused, hence the suit.

The supreme court enters into an interesting discussion on the scope and function of the two branches of government and the relations they bear to each other. The court presents the issue in the following language: "The question is whether the common council possesses discretion in the matter, or whether it is its duty upon demand to provide such funds as the board of education deems necessary for the management and maintenance of the schools and construction of school buildings."

It then quotes the law which provides that the board of education shall estimate the school expenses and submit them to the common council for approval. It also notes the fact that common-council approval must be secured before a site can be purchased or any building thereon constructed.

Taxing Power with Common Council

The court then says: "That these provisions confer upon the common council full supervision of the tax burden that shall be imposed upon the city for school purposes, seems plain. The board of education is not given authority to levy a tax for school purposes. Neither is it given the power to fix the amount that shall be levied for such purpose, as is the case under the character of the city of Milwaukee.—State ex rel. Harbach v. Mayor, 189 Wis. 84.

"It is simply made the duty of the board of education 'To estimate the expense of the city schools and prepare a budget, which shall be submitted to the common council for its approval.' It is made the duty of the common council 'to consider such estimate, and by resolution determine and levy the

amount to be raised by city taxation for school purposes for the ensuing year.'

"Any doubt that may arise concerning the authority of the board of education in the premises, must be due to the fact that school districts have been recognized as separate municipal entities, the territory of which may be coextensive with that of cities, and the power of the common council to limit the amount of taxes that may be raised for school purposes is irreconcilable with the idea that the school district is a separate municipal entity.

Function of the School Board

"The members of the board of education are city officers. They may be appointed by the mayor, elected by the common council or at the municipal election (Sec. 40.52 Stats. 1929). They have general power to supervise and manage the city school system, as specifically defined and set forth in Sec. 40.53 Stats. They have no power to levy a school tax. They have power only 'to estimate the expenses of the city schools and prepare a budget' which is to be submitted to the city council.

"The city council determines by resolution the amount of the tax to be levied. The approval of the council is also necessary before the board may purchase any site for a school building or construct school buildings or additions thereto.

"The legislative purpose to put the fiscal affairs of the city under the control and management of the city council in all respects seems undoubted. The board of education may manage and supervise the schools, but it has no power to impose a school tax. That power is left with the city council which, in imposing the tax, may take into consideration the general financial condition of the city and its other municipal necessities.

"No doubt it was the legislative thought that there would be helpful cooperation between the common council and the board of education. This is a commendable policy and should obtain. The common council should not arbitrarily or unreasonably embarrass the board of education in promoting the cause of education.

"The board of education is dealing with a special subject. It is necessary for it to visualize the future educational necessities of the city and to plan to meet such necessities. On the other hand, the com-

mon council is the fiscal authority of the city. It knows and understands the financial conditions of the city and the general municipal problems imposing burdens upon the taxpayers."

In rendering its decision the court held that the Racine board of education had no basis for action and dismissed its claims.

RECENT DECISIONS

School Lands and Funds

Subject to such constitutional limitations as may exist, legislative power over school districts is plenary.—Southern Pacific Co. v. Pima County, 296 Pacific reporter 533, Ariz.

A board of education has the duty of determining whether a school building is suitable, and its judgment will not be interfered with unless its discretion is abused (Ohio general code, §§ 7620, 7730, 12283).—Board of Education of Albany Village School Dist. v. State, 175 Northeastern reporter 217, 37 Ohio App. 453, Ohio.

The trustees of a public school are vested with discretion not reviewable in the absence of abuse, in the management, control, and protection of school property.—Nacogdoches Independent School Dist. v. Adams, 36 Southwestern reporter (2d) 567, Tex. Civ. App.

For school trustees to create a condition adding danger to children entering and leaving school premises would be an abuse of discretion.—Nacogdoches v. Adams, 36 Southwestern reporter (2d) 567, Tex. Civ. App.

School-District Government

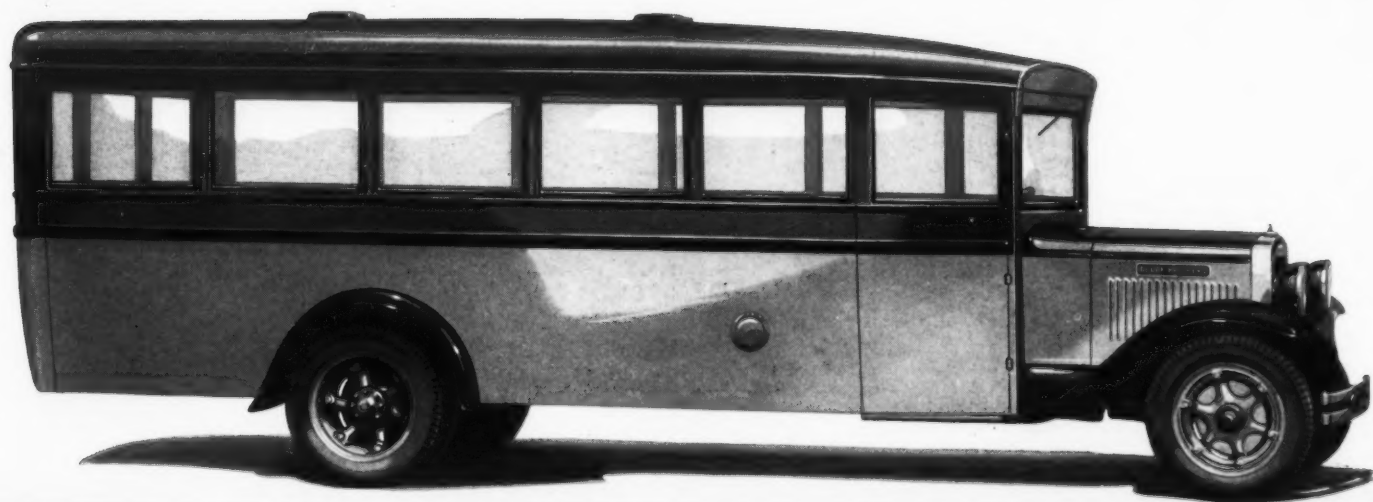
Proceedings of a school board are held not invalid, although not formally recorded.—Fleming v. Board of Trustees of Oakville School Dist. of Napa County, 296 Pacific reporter 925, Calif. App.

School-District Property

A board of education of a consolidated school district could accept the donation of a deed to a new schoolhouse site; statutes limiting authority to borrow money being inapplicable notwithstanding an objection that the board had entered into a gentleman's agreement to repay the citizens making the donation (Mo. revised statutes of 1919, §§ 11127, 11223).—Crow v. Consolidated School Dist. No. 7, 36 Southwestern reporter (2d) 676, Mo. App.

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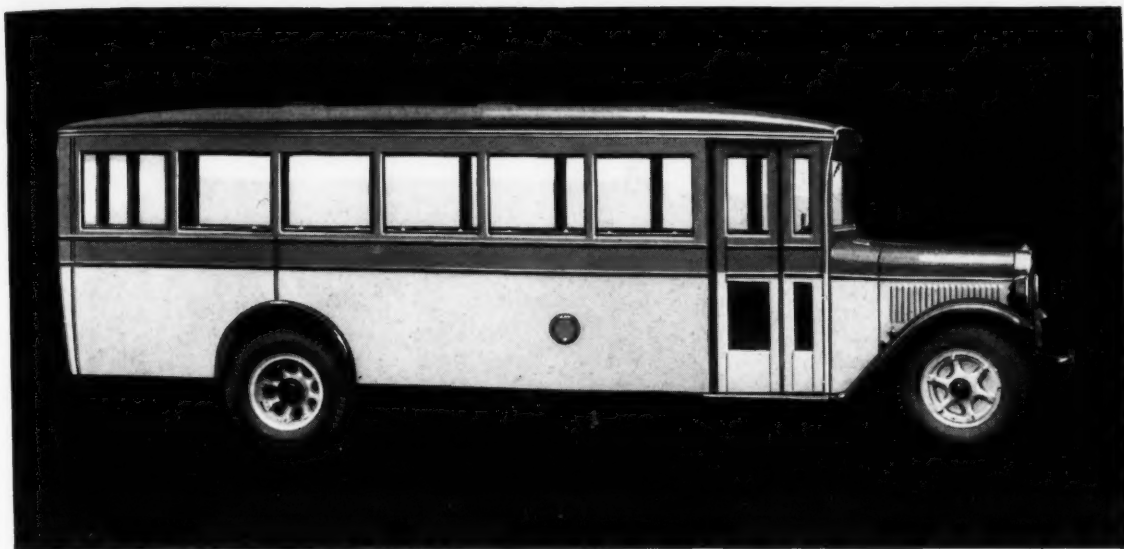
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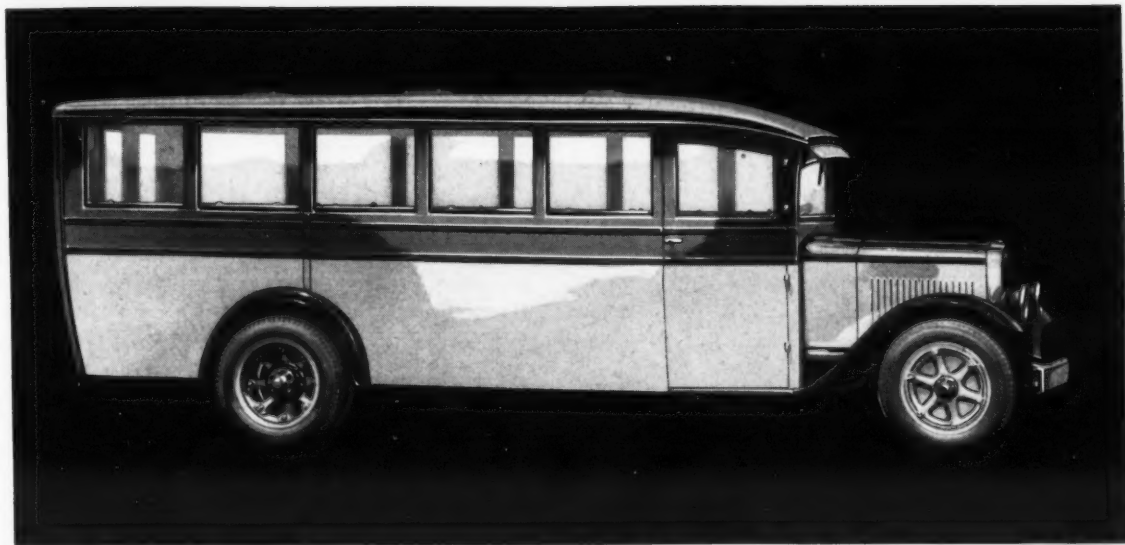
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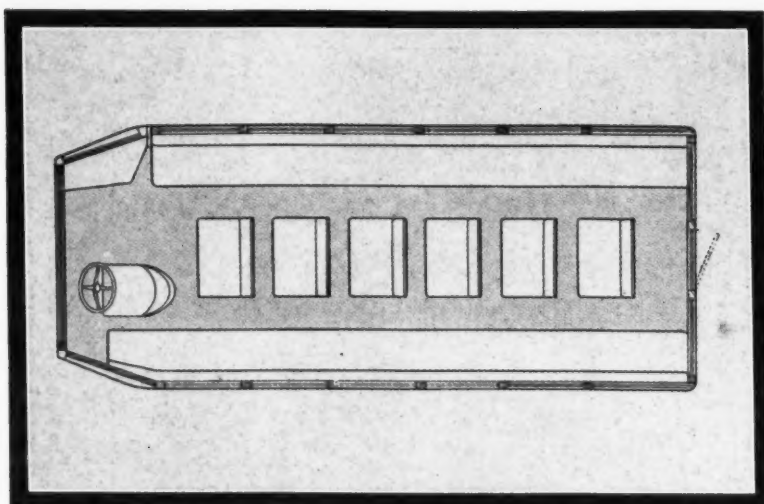
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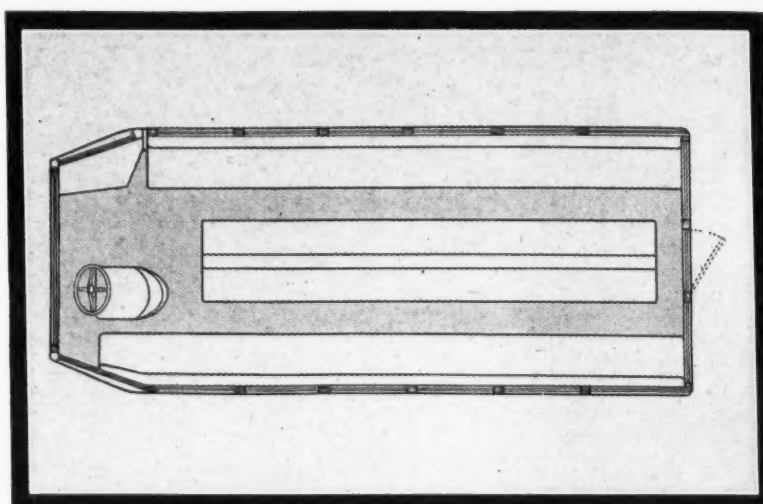
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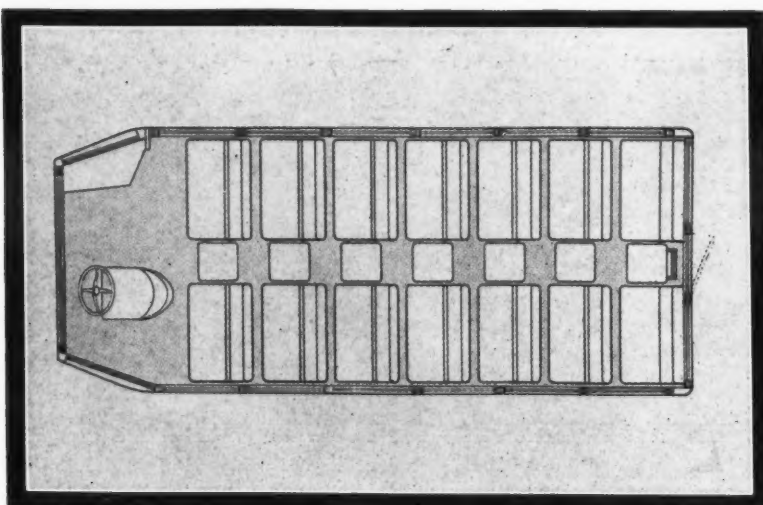
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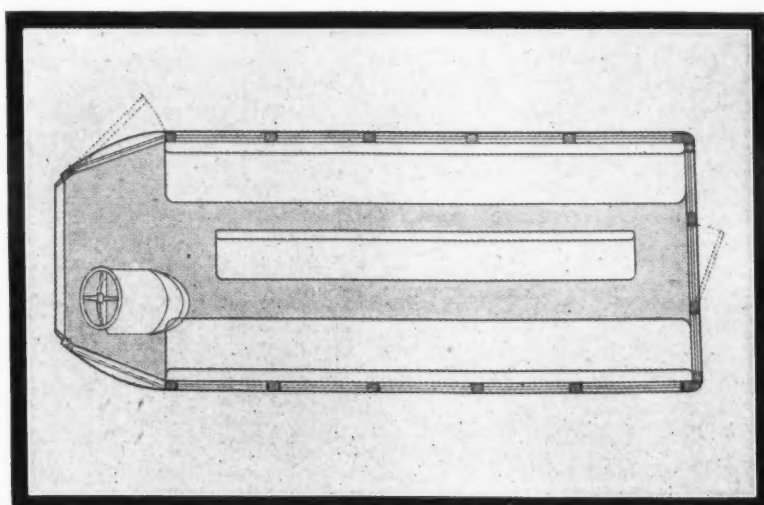
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Seating Plan "B": Available in Models 85, 185 and 187. Four rows of longitudinal seats. Capacity: Model 85—44-58 children. Model 185—42-56 children. Model 187—54-71 children.



Seating Plan "C": Available in Models 85, 185 and 187. All seats are forward-facing; folding seats in aisle. Capacity: Models 85 and 185—42 children. Model 187—49 children.



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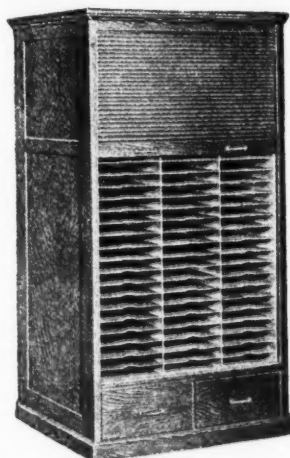


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So long as a city sees fit to use property granted for school purposes, for such purpose, in good faith, in its own way, there is no "abandonment."—*Swink v. City of Dallas*, 36 Southwestern reporter (2d) 222, reversing judgment (civ. app.) 19 Southwestern reporter (2d) 601, Tex. Com. App.

A materialman, not having filed a claim for materials furnished in constructing school buildings, could not recover from the contractor's surety for materials delivered subsequent to the effective date of the statutory amendment, although the contract was executed prior thereto (Vernon's annotated civil statutes, art. 5160, note).—*Aetna Casualty & Surety Co. v. Woodward*, 36 Southwestern reporter (2d) 721, modifying judgment (civ. appellate) 31 Southwestern reporter (2d) 679, Tex. Com. App.

Evidence that a materialman furnished a contractor with an itemized sworn statement of a claim was held insufficient, in the absence of an allegation that the materialman had given notice required by a statutory amendment (Vernon's annotated civil statutes, art. 5160, note).—*Aetna Casualty & Surety Co. v. Woodward*, 36 Southwestern reporter (2d) 721, modifying judgment (civ. appellate) 31 Southwestern reporter (2d) 679, Tex. Com. App.

A school district operating a bus for conveying children to and from school is required to exercise the highest degree of care consistent with the practical operation of a bus.—*Phillips v. Hardgrove*, 296 Pacific reporter 559, Wash.

The operator of a school bus conveying children to and from school was required to exercise the highest degree of care.—*Phillips v. Hardgrove*, 296 Pacific reporter 559, Wash.

School-District Taxation

The issuance and sale of warrants representing money borrowed during the year for special-tax school districts, payable out of the district school taxes of the county levied and uncollected, was held not to violate the constitutional provisions restricting the bond issues and indebtedness of school districts (Fla. special laws of 1927, c. 12847; constitution, art. 9, § 6; art. 12, §§ 10, 11, 12, 17).—

Savage v. Board of Public Instruction for Hillsborough County, 133 Southern reporter 341, Fla.

Boards of public instruction and school districts are not prohibited from becoming indebted for current expenses within the amount of the current tax levies (Fla. constitution, art. 9, § 6, as amended, laws of 1929, p. 784; art. 12, §§ 10, 11, 13, 17).—*Savage v. Board of Public Instruction for Hillsborough County*, 133 Southern reporter 341, Fla.

A liability incurred by a school district in excess of the current revenue in hand or legally levied is void, unless authorized by an election (Okla. constitution, art. 10, § 26).—*Protest of Carter Oil Co.*, 296 Pacific reporter 485, Okla.

A debt intended to be incurred by a school district for a vehicle for transportation of pupils was void, where no appropriations were made for school busses (Okla. complete statutes of 1921, § 10465; constitution, art. 10, § 26; art. 13, § 1).—*Protest of Carter Oil Co.*, 296 Pacific reporter 485, Okla.

A debt exceeding the constitutional or statutory limits is void, and cannot be recovered on the theory of a quantum meruit or equitable obligation.—*Protest of Carter Oil Co.*, 296 Pacific reporter 485, Okla.

School-district warrants are not rendered invalid by the fact that they are made to bear interest (Fla. special laws of 1927, c. 12847).—*Savage v. Board of Public Instruction for Hillsborough County*, 133 Southern reporter 341, Fla.

A school district, after the authorization of a bond issue, could issue bonds in installments each of which matured not more than twenty years from the issuance (Mo. revised statutes of 1929, § 9529; constitution, art. 10, 12).—*State ex rel. School Dist. of Kansas City v. Thompson*, 36 Southwestern reporter (2d) 109, Mo.

Where territory unorganized for school purposes was annexed to a school district, the property in such a territory was held subject to an assessment to pay the indebtedness of a district contracted before the annexation (Ariz. civ. code of 1913, pars. 2721, 2722, 5272; constitution, art. 9, § 8, and art. 7, § 13).—*Southern Pacific Co. v. Pima County*, 296 Pacific reporter 533, Ariz.

All taxes imposed for common-school purposes are state taxes, and the levying of taxes is a state

legislative act.—*Paducah-Illinois R. Co. v. Graham*, 46 F. (2d) 806, U. S. D. C. Ky.

School-District Claims

The negligence of a driver of a school bus in permitting the children to alight at the time an automobile was approaching rapidly was held for the jury.—*Phillips v. Hardgrove*, 296 Pacific reporter 559, Wash.

Teachers

A school teacher accepting a license to teach under the school laws is not estopped from applying to the courts for the enforcement of his rights there under (Burns's annotated statutes of 1926, § 6509).—*Keener School Tp. v. Eudaly*, 175 Northeastern reporter 363, Ind. App.

The status of a teacher as a permanent teacher is conferred upon him by the statute and is not dependent upon a contract, but the right to compensation is a proper subject of the contract (Calif. school code, §§ 5,530, 5,731, and 5,734, pars. 1, 2).—*Fidler v. Board of Trustees of Roseville Union High School*, 296 Pacific reporter 912, Calif. App.

The members of a school board, acting separately as individuals, may not bind a school district to a contract employing a teacher (Calif. political code, § 1609, subd. 5 [i]).—*Fleming v. Board of Trustees of Oakville School Dist. of Napa County*, 296 Pacific reporter 925, Calif. App.

The determination of the school trustees that a teacher's services were no longer desired was held sufficiently formal to bind the teacher, although no minutes of the meeting were kept and no formal votes of the members were taken (Calif. political code, 1609, subd. 5 [i]).—*Fleming v. Board of Trustees of Oakville School Dist. of Napa County*, 296 Pacific reporter 925, Calif. App.

That no member of the school board dissented from the clerk's proposal to notify the teacher her services were no longer desired was held sufficient authorization for the clerk to give notice (Calif. political code, § 1609, subd. 5 [i]).—*Fleming v. Board of Trustees of Oakville School Dist. of Napa County*, 296 Pacific reporter 925, Calif. App.

MOISTURE RESISTING

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The performance of a clerk's ministerial duty of notifying a teacher her services were no longer desired required no definite authorization of the school board (Calif. political code, § 1609, subd. 5 [i]).—Fleming v. Board of Trustees of Oakville School Dist. of Napa County, 296 Pacific reporter 925, Calif. App.

A school township was liable for the wrongful acts of a trustee and the county superintendent in dismissing a teacher without valid grounds therefor.—Kenner School Tp. v. Eudaly, 172 Northwestern reporter 363, Ind. App.

Under a statute authorizing the board of trustees to fix the compensation, a board, acting in good faith in reclassifying the duties to be performed in the department, could reduce the permanent teacher's compensation (Calif. school code, §§ 4.540, 4.700, 4.870, 5.530, 5.731, and 4.540, pars. 1, 2).—Fidler v. Board of Trustees of Roseville Union High School, 296 Pacific reporter 912, Calif. App.

The trustees did not abuse a discretion, in rearranging the duties of a permanent teacher and in reducing the salary from \$2,900 to \$2,500 (Calif. school code, §§ 5.530, 5.731).—Fidler v. Board of Trustees of Roseville Union High School, 296 Pacific reporter 912, Calif. App.

Schools and School Districts

The formation of new school districts is within the sound discretion of a county board of education (Crawford & Moses' Digest, § 8823, as amended by the Ark. acts of 1927, p. 550, § 1).—School Dist. No. 26 v. Baxter County Board of Education, 35 Southwestern reporter (2d) 1013, Ark.

Costs of unsuccessful proceedings for the organization of common-school districts were erroneously taxed against the petitioners willing to proceed with the application (S. Dak. laws of 1923, c. 175).—In re Formation and Organization of Common School Dist., 235 Northwestern reporter 697, S. Dak.

Withdrawing petitioners securing the dismissal of proceedings for the organization of common-school districts were liable for the costs of proceedings (S. Dak. laws of 1923, c. 175).—In re Formation

and Organization of Common School Dist., 235 Northwestern reporter 697, S. Dak.

RECENT OHIO SCHOOL-LAW DECISIONS

Three decisions of Ohio courts of appeal have been rendered since the beginning of the year as follows:

Membership on a county board of education is not incompatible with incumbency of the office of township trustee, and an elector may hold both posts at the same time, since neither is a check on the other nor subordinate to the other. Village or rural school-board membership is incompatible with the position of township trustee, because the township and the rural or village school district may be in the position of adversaries in the conferences wherein the county budget commission adjusts the budgets of local taxing subdivisions.

Members of county boards of education must be paid \$3 per day and mileage at the rate of 10 cents per mile on way for attendance upon any meeting of the board, as provided by statute, regardless of the actual expenses they incur.

In case of a proposed transfer of territory from one district to another, the people's right of remonstrance is not to be defeated by concealment of proceedings until the limit of time for a protest has passed.

A board of education is not liable in its corporate capacity for injuries received by patrons of a football game, by reason of the collapse of bleachers or otherwise, on the playgrounds under its jurisdiction; and it is immaterial that those patrons were charged an admission fee. Neither is a board of education liable in tort for accidents occurring on its playgrounds while in use by other districts or by private parties who pay fees for such use. The rule covering both of these matters is that a board of education has no tort liability except when it is directly and expressly imposed by statute. There is no such statute in Ohio.

The court of appeals of the fifth district refused to invalidate a bond issue of \$400,000 for the erection of a new high-school building at Delaware on the ground that the amount of the bond issue had not been reduced by the application of the insurance collected on the old building which had

been destroyed by fire. The court held the application of insurance to the construction of a new building is not requisite to the legality of a bond issue for the same purpose.

RECENT LEGISLATION

♦ A new law enacted by the New York state legislature provides that an omnibus license is not required for vehicles used to transport school children outside of cities merely because of such transportation. In other words, if a pleasure vehicle is used pleasure-car plates are sufficient. If a bus is used an omnibus license is required not because of the fact that pupils are being transported for hire but because the vehicle used is an omnibus.

♦ The contention was made by an attorney in court at Anderson, Ind., that "a school has not power under the Indiana tenure act of 1927 to dismiss a teacher on account of marriage." Teachers at Elwood had been dismissed, hence the suit. The court case is yet to be decided.

♦ The Boston school committee objects to the law which makes it mandatory that its school-building projects be subject to approval by the city building department. The committee has appealed to the state legislature to exempt it from the provisions of the law.

♦ The attorney-general of Indiana has been asked to define the term "able bodied" as employed in the issuance of teachers' certificates. He holds that it means "the absence of those palpable and visible defects which evidently incapacitate the person from performing the ordinary duties of a school teacher."

♦ Suits for \$125,000 brought at Detroit, Mich., against Frank Cody, superintendent of schools, and two teachers, by Mrs. Mary F. Kalec for the death of her son in a Christmas entertainment four years ago were dismissed by the circuit court. The judge said there was no evidence of negligence against the defendants.

♦ MRS. EUGENIA S. HAYDEN, of Dale, was elected superintendent of the Spencer county, Ind., schools. C. F. KOHLMAYER was named superintendent of La Grange county, Ind.

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Few if any installations will compare favorably with *Norwich* lavatory and the new *Lever Action Securo Waste*. This fixture's compactness has made it one of the most popular in the complete Crane line of school materials. The new waste now brings it a performance that is unfailingly sure, and economical. These are the improvements the *Lever Action Securo Waste* offers; every one is related to school problems:

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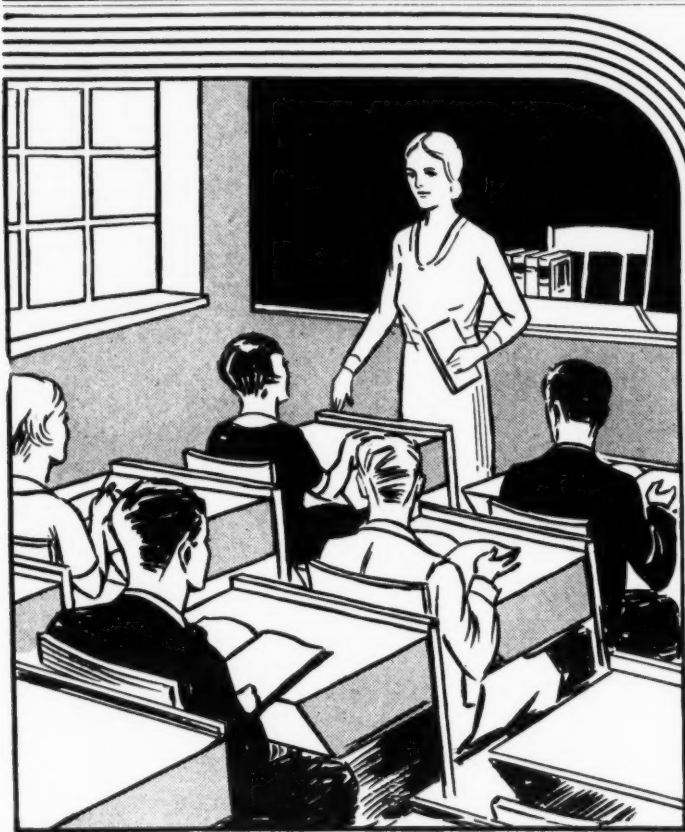
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Washington Correspondence

By A. C. Monahan,
Formerly U. S. Bureau of Education

School Building Standards in District of Columbia

The Commissioners of the District of Columbia have adopted more rigid standards of construction of school buildings because of three recent accidents in public school buildings under construction in Washington. Their investigation of these accidents vindicates the office of the municipal architect of faulty designs and of any responsibility for the accidents. The types of construction were "sound beyond question." The three accidents, however, have led the public to believe that more rigid construction is necessary and the commissioners' new regulations will provide it at little extra cost.

None of the three accidents were in completed constructions. The first was the collapse in a high windstorm, of a large section of the steel framework in the auditorium of the new Roosevelt high school. The contractor claims the riveting and bracing on the steel frame had not been completed. The second was the falling of a section of a reinforced concrete floor on a junior high school under construction. It was due to the failure of supporting forms before the concrete had set enough to hold its own weight. The third accident, in which one life was lost and two men suffered injuries, was due to the collapse of a staging on the outside of the same building. This, of course, was not a part of the building itself, but its collapse helped fix in the public mind an idea that "unsafe construction" was included in the building itself.

In the last case, building inspectors of the Engineer's Office of the District of Columbia had twice notified the contractor's superintendent that the staging was unsafe. No steps to remedy the situation were taken. The contractor is legally respon-

(Concluded on Page 102)

sible for any damages that may be assessed for accidents to employees on the job. Nevertheless the commissioners ordered the contractors to remove the superintendent and assistant superintendent of construction and replace them with men acceptable to the commissioners.

The change in construction ordered by the Commissioners for the Roosevelt high school, is to substitute for the 18-inch side walls of brick built around the steel columns, a wall of reinforced concrete, between and around the steel columns, faced on the outside with a brick facing, so as to achieve the same architectural effect. This concrete work will afford a greater support to the steel beams than would the brick wall. The steel is safe—as, inclosed in a brick wall, it would support an allowable stress of 16,000 pounds per square inch, whereas the load actually imposed on the columns is approximately 3,600 pounds per square inch. Assuming that the brick walls give no support to the columns the allowable stress is 5,600 pounds per square inch.

In recommending the change to his fellow-commissioners, Engineer Commissioner John C. Gottwald says, "As pointed out by the inspector of buildings, the design originally used by the municipal architect can be considered safe. It is to be noted that the strength of these columns is more than adequate to carry the loads imposed on them. If the brick wall inclosing them does not surely confine them to length meeting the conventional allowable ratio of length to radius of gyration, the remedy to meet the high standard set up by the board is simple.

"This remedy is to change the material in the wall up to the height of 21 feet above the stage elevation to reinforced concrete, either in part or in whole, as may be most economical. The columns so supported will have their free standing lengths reduced to conventional standards.

"While I feel the municipal architect followed good principles and safe practices in assuming that the heavily and carefully built brick walls do support the columns, I feel that it is adding one more precaution toward safety to meet the high standard just presented. The change is so simple that it is readily justified."

Washington High Schools

The high schools of the District of Columbia during the past month graduated 1,855 boys and girls, approximately 1,450 white and 400 colored youths. Pupils admitted to the same schools from elementary and junior high schools number 1,700, showing a tendency toward a considerable decrease in enrollment.

Approximately 60 per cent of those graduated are to go on to college courses, the number from the various high schools for white pupils running from 50 per cent to 90 per cent. Of 282 pupils graduated from one high school a year ago, 256 entered institutions of higher education.

Principal Serves Same School 52 Years

Fifty-two years as principal of the same school is the exceptional record held by I. H. Smith, principal of a Negro school in Chatham, Virginia, according to Dr. Ambrose Caliver, specialist in the education of Negroes, Office of Education of the U. S. Department of the Interior. This long term principal was in the first class which was graduated from Hampton Normal and Agricultural Institute, founded in Hampton, Virginia, in 1868 for the education of children of ex-slaves.

Education in Porto Rico

Jose Padin, Porto Rico Commissioner of Education, is spending some time in Washington in conference with government education officials relative to the educational situation in the territory. He has presented to the U. S. Commissioner of Education his annual report. It shows that there are in the public schools of the island, 193,396 pupils, in contrast with an enrollment of 21,873 in 1899 when the island became a U. S. Territory. School expenditures for the past year were \$5,386,923.00 of which 7 per cent is supplied by the Porto Rico government and 30 per cent from local taxes.

Washington Schools Serve Maryland and Virginia Children

Approximately 2,660 children whose residence is in Maryland and Virginia are regular pupils in the District of Columbia public schools receiving their education without tuition charges to themselves, their families or either state. By act of Congress the children of government employees may attend the schools of the District without regard to wheth-

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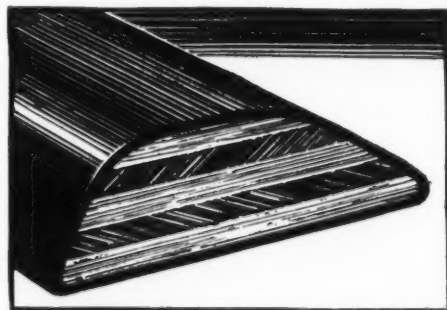
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SCRUBS - WAXES - POLISHES



(Concluded from Page 100)

er they are residents of the District or not. The cost to the District for these children is approximately \$251,862.00 a year according to a report just made to the board of education by the superintendent of schools, Dr. Frank W. Ballou.

On the other hand these two states have in their schools 303 District of Columbia children attending without paying tuition and costing the two states approximately \$24,865.00 a year. The majority of these children are living in these states with relatives, or are wards of charity or are on government reservations. The superintendent's report was made at the request of the board of education with the idea of making changes in policy relative to these outside children in Washington's public schools. It has been proposed that Congress, responsible for the act which permits them to attend schools in the District without tuition charges, make a special appropriation to the school system to cover the cost to the District of their education.

Building Costs

School authorities can save much money in the costs of new buildings over those of a year ago according to official figures of the U. S. Bureau of Standards. A comparison of costs of the principal building materials for May 1, 1931 with those of May 1, 1930, shows a marked decrease, in many cases. Below are figures for four widely distributed cities and for seven common building materials.

	Philadelphia		Shreveport		Milwaukee		San Francisco	
	1930	1931	1930	1931	1930	1931	1930	1931
Common brick, per thousand..	\$18.00	\$17.00	\$18.00	\$18.00	\$13.00	\$11.25	\$14.50	\$14.00
Cement, per bbl.	2.30	2.16	3.60	3.20	2.60	1.64	2.60	2.42
Common boards, per M	40.00	37.50	55.00	.....	48.00	30.00	26.00	27.00
Hollow tile, each .....	.20	.17	.25	.25	.17	.16	.26	.26
Reinforcement bars, 100 lbs. ..	2.65	2.60	3.75	3.75	3.25	3.00	2.65	2.75
Structural steel, 100 lbs.	3.00	3.00	5.50	5.50	4.00	4.00	4.50	4.00
Gypsum Plaster neat, ton.....	19.75	17.50	22.00	22.00	18.00	15.00	19.00	16.90

These figures according to the Department of Commerce, are averages "paid by contractors for building materials delivered on the job."

Abandonment of Portables in the District of Columbia

The number of portable schools in the Washington system is fast lessening, and 24 in use this year will not be used again. This will leave 31 in use.

The new buildings completed, the transfer of children to fill vacancies in buildings not used to capacity because of shifting population, the transfer of two white schools to the colored division, makes this saving in the use of portables possible.

Reviving Interest in Rural Education

The U. S. Commissioner of Education, through a number of educational conferences in various parts of the United States, is assisting in the movement for a revival of interest in rural education. Several such meetings have been held with Federal, state and county school officials taking part. One during the past month at the Western State Teachers College, Kalamazoo, Michigan, was attended by representatives of 10 wide-west states. "Supervision of the rural schools" was the principal subject of the meeting.

BOARDS OF EDUCATION

♦ Attorney General Fletcher, of Iowa, has rendered an opinion, to the effect that expenses for sending a school-board member, superintendent, or other employee to a conference or convention may not be legally paid by a school board. The opinion also holds that a school board may not pay dues to belong to an association.

♦ Zanesville, Ohio. Two additional weeks of school next year have been recommended by Supt. C. T. Prose.

♦ An entire new slate of school-board members must be elected next fall in Shaker Heights, Garfield Heights, Parma, Berea, Euclid, Rocky River, Bedford, and Maple Heights, Ohio, under a ruling of Attorney General Gilbert Bettman.

♦ Racine, Wis. Fifty employees of the board of education have voted to give 1 per cent of their pay to the mayor's special unemployment fund. The agreement was signed by fifty employees, including janitors, engineers, carpenters, painters, and laborers. The deductions which went into effect on June 12, will continue until further notice.

♦ Davenport, Iowa. The school board has approved a merging of the positions of school carpenter and chief engineer, under the direction of Mr. A. O. Shorey, as supervisor of buildings and grounds. The consolidation of the two positions will effect a saving of approximately \$2,000 to \$2,500 a year.

♦ North Seekonk, R. I. The school board has ordered that a student entering the high school for the first time must obtain a signed permission from the superintendent before the board will be responsible for tuition or transportation. The board will not be responsible for tuition or transportation where the pupil has been in attendance more than four years, unless a written request has been presented to the school board.

♦ The board of education of Madison, Wis., has reelected Fred W. Erickson as supervisor of purchases and supplies at an annual salary of \$3,800, and Marcus E. Johnson, supervisor of buildings and grounds at \$3,900.

♦ Chicago, Ill. The board of education, at a recent meeting, acknowledged with appreciation the contribution of Chicago school teachers, who gave money to the amount of \$111,960, in addition to considerable personal service, for the financial relief of families and for the feeding of undernourished children in their communities, as well as sharing in the Thanksgiving collection of the School Children's Aid Society amounting to \$98,016. It was pointed out that the public has little knowledge of the service which teachers render in helping to solve family problems in cases of unemployment or distressing home conditions.

♦ Chicago, Ill. The board of education has appointed Don C. Rogers and William J. Bogan as a committee of two to conduct a survey of school-land purchases. All purchases of school sites will be discontinued until a report of the findings is made to the school board. At present the board has 37 school sites, which cost the board \$3,118,445 and on which no buildings have been ordered.

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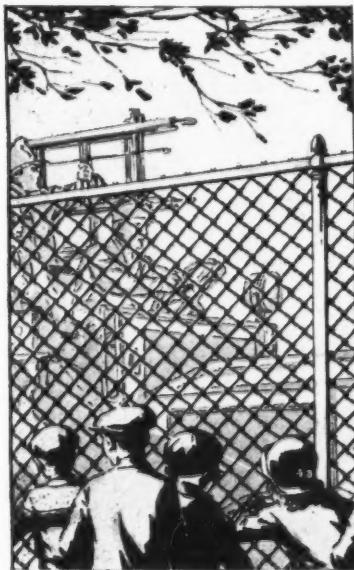


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Find Out If on a Basis of 10 Inches to the Child or 12 Inches.
Some States Require 13 inches to the Child.

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APPEARANCE — CHILDREN WILL ENJOY RIDING IN A YORK-HOOVER SCHOOL BUS.

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Personal News of Superintendents

♦ MR. CLARENCE H. DEMPSEY, formerly state commissioner of education for Vermont, has been elected superintendent of schools at Arlington, Mass. He succeeds C. A. Moody.

♦ SUPT. FRANK APPEL, of Portsmouth, Ohio, has been reelected for a three-year term.

♦ MR. G. W. ZELLER, of Castalia, Ohio, has been elected superintendent of schools at Woodville.

♦ MR. L. C. MASTERS, of Berea, Ohio, has been elected superintendent of schools at Burton, to succeed P. H. Calvin.

♦ MR. M. A. MASSEY, of Lincoln, Nebr., has been elected superintendent of schools at Bartley.

♦ MR. LEONARD HOSSMAN, of Gallatin, Mo., has been elected superintendent of schools at Cameron, to succeed C. C. Crosswhite.

♦ MR. HENRY HILLBRAND, of Vandalia, Mo., has been elected superintendent of schools at Middletown.

♦ MR. OTHO LYNCH has been elected superintendent of schools at New Hampton, Mo., for the coming year.

♦ SUPT. E. L. GIROUX, of Black River Falls, Wis., who has offered the superintendency of Jefferson has been given an increase in salary and will remain at Black River Falls.

♦ SUPT. F. A. RAMSEY, of Pauls Valley, Okla., has been reelected for a seventh term.

♦ SUPT. F. J. PROUT, of Sandusky, Ohio, has been reelected.

♦ MR. L. H. OZIAS, of Waterloo, Iowa, has been elected superintendent of schools at Hamilton.

♦ MR. W. F. CHEVALIER, 76, superintendent of schools at Muscatine, Iowa, from 1901 to 1910, died on June 1, at Lubbock, Tex., following a stroke of paralysis. He was a graduate of Marietta College in Ohio.

♦ MR. F. W. SHEARER has been elected superintendent of schools at Middletown, Conn., to succeed the late E. B. Sellaw.

♦ MR. W. E. DANIEL has been elected superintendent of schools at Buckley, Wash., to succeed E. D. Merriman.

♦ MR. R. E. SOUERS has been elected superintendent of schools at Bisbee, Ariz., to succeed G. E. Brown.

♦ SUPT. H. E. MICHAEL, of Chagrin Falls, Ohio, has been reelected for the next year.

♦ MR. ANDREW HOWARD, of Troy, Iowa, has been elected superintendent of schools at Birmingham.

♦ MR. N. E. VILES has been appointed Director of Schoolhouse Planning and Construction for the State of Missouri. Mr. Viles, who holds a master of arts degree, has had considerable practical experience, and is planning to complete his graduate work in the field of schoolhouse construction at Peabody College during the coming summer.

♦ SUPT. F. S. BAKELEY, of the Los Angeles Independent School District, San Antonio, Tex., has been unanimously reelected for a two-year period, beginning with July 1. Mr. Bakeley is completing his second term as superintendent of the school district of Los Angeles.

♦ MR. JOE A. MITTEN has been reelected as superintendent of schools at Lowellville, Ohio. Mr. D. L. Metzger will continue as principal of the high school during the next year.

♦ SUPT. A. R. WHITE, of Bryan, Ohio, has been reelected for the school year 1931.

♦ C. E. BASS, who has served two terms as superintendent of Pearl River County, Miss., has announced his candidacy for reelection.

♦ MRS. A. W. BUERIPEL succeeds Mrs. Cecilia Hinkson as principal of the Curtin School, Milton, Pa.

♦ HARRY W. RICE has been elected superintendent of schools at Throckmorton, Texas. He was formerly superintendent at Midlothian, Texas.

♦ SUPT. E. S. DENISON, of Lake Geneva, Wis., has resigned. He will be succeeded by MR. CLARENCE HODGE, of Aurora, Ill.

♦ SUPT. E. E. SHULL, of Morristown, N. J., has been reelected for a three-year term, beginning with July 1.

♦ The teachers' club of New Britain, Conn., held a reception on May 14, for MR. STANLEY H. HOLMES, in honor of his twenty-five years of service as superintendent of schools. Mr. Holmes was presented with a life membership in the National Education Association.

♦ MR. W. A. BRICKEY has been reelected as principal of the high school at Spring City, Tenn., for another school year.

♦ MR. R. C. AUSTIN, of Waverly, Tenn., has been elected superintendent of schools at Pulaski.

♦ MR. J. D. SHELTON, of Unionville, Mo., has been elected superintendent of schools at Greencastle.

♦ MR. B. D. BUNN, of Lillington, N. C., has been elected superintendent of schools at Waynesville.

♦ MR. T. R. ROBERTS, of Independence, Iowa, has been elected superintendent of schools at Decorah.

♦ SUPT. T. I. CURTIS, of Ottawa, Ohio, has been reelected for a three-year term.

♦ MR. A. R. WHITE has been elected superintendent of schools at Bryant, Ohio, to succeed J. W. Wyandt, who retired at the close of the school year.

♦ MR. H. B. WOOD, of McDermott, Ohio, has been elected superintendent of schools at Fredericktown.

♦ SUPT. E. P. ENNIS, of Corning, Ark., has been reelected for another year.

♦ MR. E. L. BROWN, for seven years assistant superintendent of schools at Denver, Colo., will retire on September 1, having reached the age of retirement.

♦ MR. S. U. DOWNS, principal of the Eliot School, Portland, Oreg., is retiring from schoolwork after completing a service of 37 years. Mr. Downs came to Oregon in 1890 after several years spent in South Dakota and Illinois.

♦ MR. ERNEST E. OERTEL, of Newman, Calif., has been elected superintendent of schools for the Borough of Mountain Lakes, N. J., at a salary of \$5,000.

♦ MR. E. L. NOVOTNY, of Junction City, Kans., has been elected superintendent of schools at Beatrice, Nebr., to succeed A. L. Burnham. Mr. Novotny has had an extended educational career as teacher, principal, and superintendent, in rural and city schools. He was superintendent of schools for two years at Elm Creek, three years at Bridgeport, six years at Central City, and three years at Junction City.

♦ Ohio superintendent elections: Breman, E. J. ARNOLD; Reading, HOMER BUSSEY; Woodville, GLENN W. ZELLER; Kingston, M. A. SHEPARD; West Union, H. E. DENING; New Haven, CHARLES B. CROUCH; Cygnet, CHARLES HARKNESS; Willard, H. L. BOWMAN; Bellefontaine, S. A. FRAMPTON; Fairfield, E. E. HASS. Election of principals: New Falls, T. O. GRIFFITH; Glouster, L. G. DELONG; Brewster, C. E. BLAUCH; Pickaway, O. C. MEYER; Pomeroy, W. R. FARNHAM; Tippecanoe City, GEORGE HOWE.

♦ E. P. NUTTING was elected superintendent of the Moline, Ill., schools.

♦ MR. DELMER E. BATCHELLER, who had been superintendent of schools at North Tonawanda, N. Y., for a number of years, died at his home on May 31. He was a graduate of the Fredonia Normal School and the Illinois Wesleyan University, and held degrees given by Illinois Wesleyan University and Columbia University. Previous to going to North Tonawanda, Mr. Batcheller was superintendent of schools at Dunkirk and Olean, N. Y.

♦ MR. H. B. HARTMAN, of Ackley, Iowa, has been elected superintendent of schools at Dinsdale, Iowa. He succeeds C. H. Andrews.

♦ SUPT. GLENN FEATHERSTON, of Huntsville, Mo., has been reelected for a third term.



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WHEREVER overcrowding develops, Falcon Deodorizing Products are a necessity. *They sweeten and recondition the air and overcome unpleasant odors of every kind.*

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DEODORIZING PRODUCTS

♦ SUPT. S. L. LOCKRIDGE, of Pilot Grove, Mo., has been reelected for another year.

♦ MR. H. G. FISH, of Austin, has been elected supervising principal of schools at Mt. Jewett, Pa.

♦ MR. M. H. ZIEGLER, of Monowi, Nebr., has been elected superintendent of the Goodwin Consolidated Schools at Lodgepole.

♦ PAUL A. DAVIS has been reelected superintendent of schools at Elma, Wash. He has served six years.

♦ MR. FRANCIS HARTER has been elected superintendent of schools at Bridgewater, S. Dak.

♦ SUPT. JAMES D. DARNALL, of Geneseo, Ill., has been reelected for another year.

♦ MR. W. R. BRIMM has been elected superintendent of schools at Panama, Ill.

♦ SUPT. L. J. SMITH, of Babylon, N. Y., has been reelected, with an increase in salary.

♦ SUPT. I. J. ROBINSON, of Boonville, Ind., has been reelected for another three-year term.

♦ MR. A. J. HETZEL has been elected superintendent of schools at Wathena, Kans.

♦ MR. SWICK, of Parma, Ohio, has been elected superintendent of schools at Grangerburg.

♦ MR. W. E. SHADE, of Miamisburg, Ohio, has been elected superintendent of schools at West Carrollton, Ohio, to succeed J. H. Bouts.

♦ MR. P. F. COGGINS, of Frederickton, Ohio, has been elected superintendent of schools at Dalton.

♦ MR. R. E. SCHAFER has been elected superintendent of schools at Barnesville, Ohio, to succeed P. V. Brown.

♦ SUPT. H. J. BOWERS has been reelected superintendent of schools of Deercreek township, near Williamsport, Ohio.

♦ MR. HOMER BUSSEY has been elected superintendent of schools at Reading, Ohio, to succeed H. E. Kellum.

♦ MR. J. E. DUNAWAY has been elected superintendent of schools at East Liberty, Ohio.

♦ SUPT. F. E. DEAN, of New Richmond, Ohio, has been reelected for another year.

♦ SUPT. J. M. REED, of Fostoria, Ohio, has refused a salary increase for next year. Mr. Reed was recently given a three-year contract.

♦ SUPT. C. B. DILLON, of Glouster, Ohio, has been reelected for another one-year term.

♦ MR. W. A. KOHL has been elected superintendent of schools at Sauk Center, Minn.

Personal News of School Officials

♦ FRANK S. EBERSOLE was elected a member of the board of education of Goshen, Ind.

♦ At Franklin, Ind., GEORGE WELLS was elected member of the school board.

♦ MRS. JOHN P. CATON was elected a member of the La Grange, Ind., school board.

♦ A. E. KOCHER was reelected member of the Winamac, Ind., school board.

♦ MR. ARTHUR CRUMB and Mr. J. D. VAN DRIESEN are two new members of the Rockford board of education appointed by Mayor J. Herman Hallstrom. The following members have been reappointed: PRES. JOHN A. ALDEN, MRS. J. R. ANDERSON, MRS. EDITH BAILEY, M. N. NOLING, and ROY JOHNSON.

♦ WILLIAM I. DENMAN was appointed member of the school board of Ferndale, Mich.

♦ The board of education of Westminster, Md., reelected PEARRE WANTZ as its president, and MILTON A. KOONS as vice-president.

♦ JOHN PRIESKORN, a bank cashier, was elected a member of the school board of Harbor Beach, Mich.

♦ MR. HOMER HOOVER has resigned as a member of the school board of Wabash, Ind.

♦ The New York City board of education has promoted the following school principals, Arthur T. Gorton, Maurice A. Garfinkel, Mary A. Hallinan, and A. Eugenie Chinnock, to junior-high-school principalships.

♦ MR. ROBERT F. CARR, the new member of the Chicago school board, has indicated the course he believes necessary to assure Chicago a creditable administration of the public schools, at a reasonable cost to the taxpayers.

Mr. Carr favors a thorough investigation of school-board expenditures to eliminate waste and extravagance. He maintains that the board must keep the budget within the limits of the taxpayers' purses, pointing out that there is a crying need for a painstaking study to improve the board's business organization.

♦ MR. LEWIS E. MYERS has been unanimously reelected as president of the Chicago school board. Mr. Myers, in accepting the office, indicated that he contemplated changes in the personnel of the board's com-

mittees, probably with a shift in two of the chairmanships. MR. OSCAR DURANTE was elected vice-president.

♦ MR. F. W. ERICKSON has been reelected supervisor of purchases and supplies at Madison, Wis. MR. M. E. JOHNSON was also reelected as supervisor of buildings and grounds.

♦ MRS. RUTH BANNING LEWIS has been reelected as president of the school board of Colorado Springs, Colo., for a seventh term. Other officers elected were MR. WILLIAM MASON, JR., vice-president; MR. T. J. FOX, secretary; and MR. A. B. BARNEY, treasurer.

♦ MR. C. W. WILSON, 68, president of the school board of Deckerville, Mich., died at his home on May 3.

♦ MR. G. M. CRAWFORD has been elected secretary of the school board of San Diego, Calif., at a salary of \$4,500 per annum. Mr. Crawford entered upon his work on July 1.

♦ MISS ELIZABETH H. PHILLIPS, general secretary and purchasing agent for the city schools of Santa Ana, Calif., has resigned because of ill health. The duties of the office will be divided between the auditor's, and the other office staffs. An additional clerk will be employed to assist the staff.

♦ DR. ROBERT J. ALEY, president of Butler University for the past nine years, has resigned. Dr. Aley, who left the University of Maine to go to Butler, will become president emeritus.

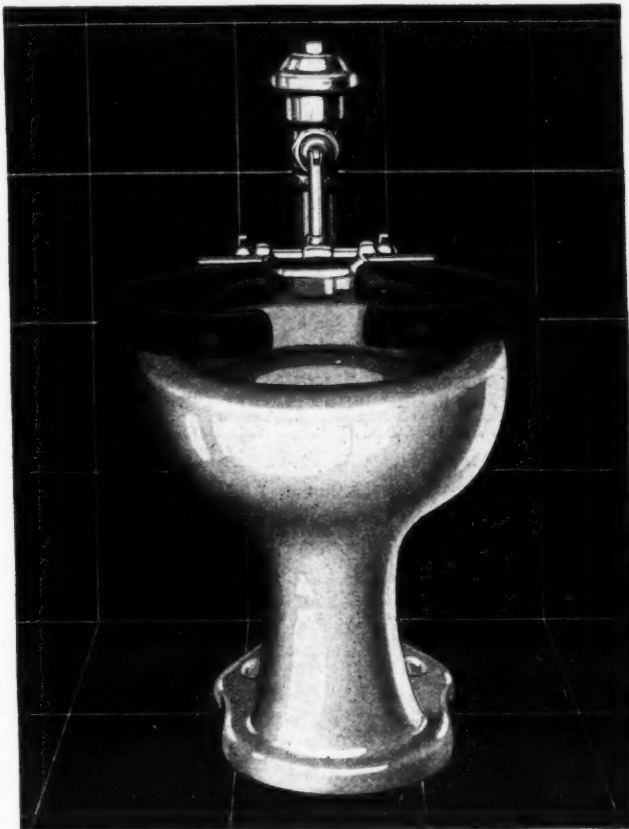
♦ DR. EVERETT A. CHURCHILL has been elected as a member of the school board at Belmont, Mass.

♦ A portrait painting of PRINCIPAL JOSEPH JORGENSEN was presented by a group of students to the South High School of Minneapolis. The presentation was attended with a festive ceremony. Principal Jorgensen was present to acknowledge the gift.

♦ SUPT. M. J. HALE, of McAlester, Okla., has been reelected for the next school year.

♦ MR. V. DON HUDSON, superintendent of the Novinger consolidated schools of Novinger, Mo., for the past two years, has accepted a position on the faculty of the State Teachers' College, at Kirksville, Mo. During Mr. Hudson's administration, there was effected a general reorganization of the school system, including the inauguration of a system of financial accounting, the installation of records and forms for child accounting, a reclassification of the elementary pupils, and the inauguration of new rules and regulations for the conduct of the schools.

The Royal Automatic seat-operating valve delivers a full, positive flush and not one drop more. With this valve no bowl stands unflushed, yet no water is wasted.



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In the nation's finest schools the majority of flush valve installations are Sloan.

This preference is easily understood. The Sloan Valve Company has been making flush valves—and flush valves only—for twenty-five years. A quarter century of specialization has established a reputation for dependable, unfailing service which is unequalled in the flush valve field.

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Offering leadership in quality, reliability and variety to suit every purpose, it is natural that Sloan Flush Valves should be the first choice of school authorities.

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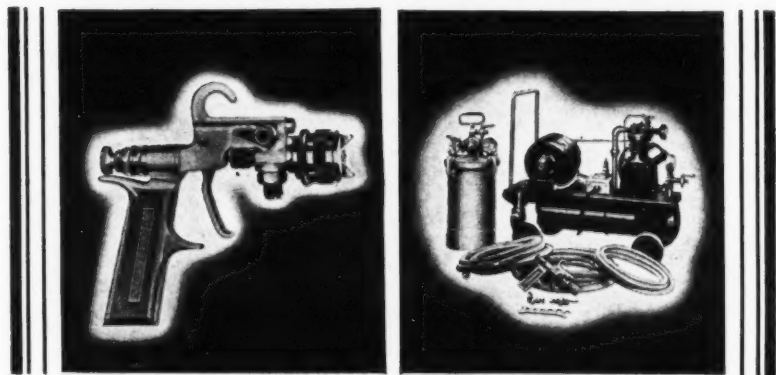
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School Hygiene

MEASURING CHILDREN'S HEARING

Is John disobedient because he does not obey promptly? Is Elaine slow to grasp because she requires several explanations before she seems to know "what it's all about?" Is Frank "just plain inattentive" because he never gets directions? Perhaps—but have these children's hearing been tested? Is it certain that John, Elaine, and Frank hear accurately what was said to them?

The school authorities of Long Beach, N. Y., consider it of great importance to carefully and scientifically test each child's hearing. For this purpose they use a phonograph audiometer. This method of ear testing, which was developed after several years of careful experimentation, has proved most successful because it is accurate, and many children can be tested at one time.

The audiometer consists of a spring phonograph motor and turntable, a magnetic reproducer, a group of telephone receivers, and a specially prepared phonograph record. After the telephone receivers have been distributed and properly adjusted, the children are told that they are about to hear numbers called, first by a woman and then by a man, who seem to be moving farther and farther away, so that the sounds grow weaker and weaker. They are asked to write as many of these numbers as they can hear. The phonograph is then started, and the first thing they hear is: "You are going to have your hearing tested. Write the numbers which you hear in Column I." Then they hear numbers spoken, the loudness of each sound being less than that of the preceding one. The test is given twice by a woman's voice and then twice by a man's voice. The receivers are then changed to the left ears and the test repeated. In the upper grades, a record of three-digit numbers is used, while for the earlier grades the record is one of two-digit numbers. Master sheets for correcting the papers are so arranged that for easy comparison they may be placed alongside the numbers written on the

blank form by the child. The hearing loss for any test is found in the outside columns opposite the last number heard correctly.

In every case where hearing loss is indicated by the audiometer test the child is examined by the school doctor or by the child's family physician. Catarrhal deafness, nerve deafness, adhesions and congestions of the eardrum are a few of the ear troubles which are located.

The Long Beach school system is the only one on Long Island which possesses an audiometer. Although the apparatus is by no means inexpensive, the cost of the machine and its operation is more than justified when one realizes the benefits which result from the detection and treatment of ear defects.

Supt. W. J. Schwalje of Long Beach states that the schools have at present no scientifically prepared statistics to confirm their judgment. However,

EYE HYGIENE

Eye hygiene for children is a matter of windows, their location, size, and direction; of window shades and their frequent and careful adjustment; of seating with reference to the direction of light and to the size and topography of the pupil in the seat; of blackboards, whether black, and of chalk, whether white; of little black marks on white paper which so suddenly have assumed such an overwhelming importance in the child's life; of white tracings on blackboards which must be as carefully considered from the back row of seats as well as from the front.

It is, moreover, a matter of chalk dust and floor dust in the air, of dirty door knobs and desks and, therefore, dirty fingers which seek tired eyes. It is a matter of fatigue not only from specific strains but as a part of the general poor muscle tone. It is, in fact, a matter of general nutrition and therefore of diet, sunshine, play, and sleep. — Maude A. Brown.

This year, do your summer cleaning at less cost

GETTING your school ready for next term need not be a costly operation.

By using Oakite on walls, woodwork, windows, floors, desks and other furniture, the summer clean-up work will be done thoroughly and quickly. An ounce to the pail of water is all that is needed to make equipment clean and fresh-looking.

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Industrial Cleaning Materials and Methods

he is of the opinion that a substantial percentage of retardation and its consequent expense in money and happiness would be eliminated, if school systems were to utilize the accurate means which are now available, for detecting and treating children whose hearing is below normal.

THE TEACHER'S INSPECTION IN COMMUNICABLE-DISEASE CONTROL

The school nurse has come to realize more and more the important rôle routine morning inspections play in preventing the spread of communicable disease in her schools. In many instances, she is fortunate enough to have the classroom teacher assume this responsibility, and as a rule, the results are gratifying. Miss Henrietta Landau, in the *American Journal of Public Health*, says that the teacher must be taught. She writes: "However, how well equipped is our average school teacher to detect symptoms of a communicable disease? A field supervisor in Indiana had a very enlightening experience a few weeks ago. A city school nurse was very much concerned because of a threatened scarlet-fever epidemic in one of her schools. Upon inquiry, the supervisor learned that the teachers were giving daily inspections in order to wipe out suspicious cases. To her great surprise, she found that one teacher's idea of symptoms of scarlet fever was peeling hands and chest. The school nurse had been quite sure that the teachers knew what to look for.

"The average lay person has very little, if any, scientific knowledge of communicable diseases, and it is up to us as public health nurses to spread the light of the essential facts, at least, to as many people as we can. The majority of teachers are interested in the more commonly known communicable diseases and they will show great interest in the particular disease one of their own pupils may have developed. The incident may be used as an opportunity to inform teachers how a communicable disease is spread. A demonstration inspection should be given, pointing out some of the definite symptoms. Talks should be given to the students to help toward developing a more sane and intelligent attitude toward the 'catching sicknesses.'"



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So speaks the modern "forty-niner". His piercing eye has caught the gleam of "pay dirt" on thousands of floors . . . he brings it to the surface by simply treating with Car-Na-Var.

Why not "prospect" for gold on *your* floors? By treating with Car-Na-Var you can cut your cleaning costs just about in half while doubling the life of your floors. For Car-Na-Var provides a sturdy protective film that resists the grinding-in of dirt and grime . . . a surface that is efficiently maintained by a simple

nightly sweeping and weekly polishing . . . instead of frequent scrubbing.

*Car-Na-Var is a scientific combination of varnish gum and waxes. It gives a beautiful, lustrous, yet non-slippery finish to wood, linoleum, terrazzo, concrete, and cork floors . . . protects the surface indefinitely from wear. Is far more durable and economical than other floor treatments. Comes in "natural" and popular colors. Readily applied with a mop. The coupon below will bring full details.

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Name _____
Address _____
By _____

"CUT THE OVERHEAD UNDER YOUR FEET"

An Educator Looks at Salesmanship

George W. Grill, Assistant Superintendent of Schools, Lakewood, Ohio

Whenever my travels bring me anywhere near the thriving city of Zenith, N. K., I always avail myself of a very cordial standing invitation and stop off for a little visit with my old college classmate, Alfred L. Wright, the superintendent of schools in the city with the lofty name. I recently was the beneficiary of such a pleasant interlude and as usual my stock of knowledge and information was increased.

While we were sitting in Al's office on this occasion, discussing emergent evolution, prohibition, the psychology of individual differences and other weighty subjects, his secretary came in to announce that John Samuels, salesman for the A.B.C. School Supply Company, was sitting on the mourners' bench in the waiting room, ready for the 9:30 appointment he had been promised. I was scheduled to spend the day with Al, so I urged him to go right ahead with his appointments, but that if he didn't mind, I would like to sit in and listen to the conference and see if I could learn anything.

Mr. Samuels was ushered into the private office, and after the preliminary introductions were effected he launched into his sales talk. His firm was prepared to sell any kind of school supplies from paper clips to school busses, but my friend did not seem to be in the market for anything he had in his catalog and eventually succeeded in conveying that information to the salesman in a fairly painless manner.

Mr. Samuels was young, earnest, and ambitious. Reluctantly he closed his catalog and his order book, and, as he was fastening the latches and buckling the straps of his brief case preparatory to departing, he suddenly changed his mind, resumed his seat and spoke as follows:

What the Superintendent Expects

"Mr. Wright, you don't remember me, but I am a graduate of your high school, and I have recently graduated from college. I was married a few weeks ago and I've got to make good on this job. Why wasn't I able to sell you something? Please tell me what you expect of a salesman who calls at your office. Have you time to tell me now, or shall I come back later?"

"If you have the time to spare," Al said, "I can talk to you for a few minutes right now. I am interested in you because you are a salesman and I always try to help salesmen whenever I can. I am interested, too, because you are one of the youngsters to whom I handed a diploma a few years ago, a fact of which I am glad to be reminded; and because you are a recent college graduate; and, most important of all, because you have recently been married. I remember very vividly my own feelings under similar circumstances many long years ago. I am nearly old enough to be your father, and because I am compelled to spend a great deal of my time interviewing salesmen I feel entirely competent to give you advice along the line of salesmanship. I have not tried to sell anything since the summer vacation at the end of my freshman year in college when I tried to sell 'Old Dr. Brown's third, last, and complete recipe book, and household physician, including a treatise on the diseases of women and children, and domestic animals; in fact, the book for the million.' The success I had that summer was nothing to write home about, but it added greatly to my education."

"I am sure you can be of great help to me," Mr. Samuels said.

My friend tilted back in his swivel chair, rested his feet on the edge of his sturdy wastebasket and began his monologue as he called it.

"Feel free to leave whenever the lecture gets tiresome," he said to me.

I indicated that I knew my way about the place and would go out and chat with his attractive secretary when I could stand it no longer. However, I found it so interesting I remained through it all.

Honesty First and Always

"I should like to tell about a few degrees you can add to the 'A.B.' which your college recently conferred on you," Al began. "The first of these is the degree of 'H. S.' which you probably are thinking stands for 'High School' as it does, but in salesmanship it stands for 'Honest Salesman.' It is a degree that you need when you start out on a salesmanship career and you get it by a grim determination never to deviate from the absolute truth in your dealings with your prospective customers and fidelity in the practice of that resolution. A great procession of salesmen pass through my office. The ones that find it most difficult to secure appointments are the high-pressure brothers on their second rounds. The ones who are perennially welcomed, and incidentally the ones who have remained longest in the profession, are the ones who have learned slightly to understate, rather than to overstate the virtues of their wares. When I find delivered goods just a little better than the salesman promised, a sense of satisfaction suffuses my soul and I can't help having a friendly feeling for the salesman who sold the goods."

"If determination is all that is required to add the degree of 'H. S.' to my small collection, I have it," Mr. Samuels said.

Al indicated that he had mentioned practice as well as determination as being necessary and Mr. Samuels made a note of the addition. Then Al continued:

Loyalty to the Firm

"The next degree which I suggest you add to your collection as a salesman is designated by three letters, 'L. A. S.' In the church which I attend, these letters stand for 'Ladies' Aid Society,' but in salesmanship they stand for 'Loyal, Ardent Salesman.' By ardent I mean warmly enthusiastic with an infectious quality

of enthusiasm that carries the prospect along with the salesman. Such a salesman is one of the representatives of a great pencil company who calls at my office about twice a year. He is so enthusiastic about his company that I rather enjoy doing business with him. Along with his enthusiasm he exhibits a rare kind of loyalty, a loyalty that causes him to talk up his own company but never to utter a word of disrespect toward other companies. Some salesmen who call on me seem to think that the only way they can show their loyalty to their own firm is to follow the example of Carl Sandburg's Rootabaga Pigeons and call all other firms and salesmen 'goofs and snoofs, grave robbers, pickpockets, porch climbers, pie thieves, pie-faced mutts, bums, big bums, big greasy bums, dummies, mummies, rummies, sneezicks, bohunks, wops, snorkies, ditch diggers, peanuts, fatheads, sapheads, pinheads, pickle faces, horse thieves, rubbernecks, big pieces of cheese, big bags of wind, snabs, scabs, and dirty sniveling snitches.'"

"Would you mind repeating that list?" I said, "I started to write it down but lost out at the 'big greasy bums.'"

He told me I had better not try to memorize it or I might be tempted to use it sometimes, and the advice seemed good.

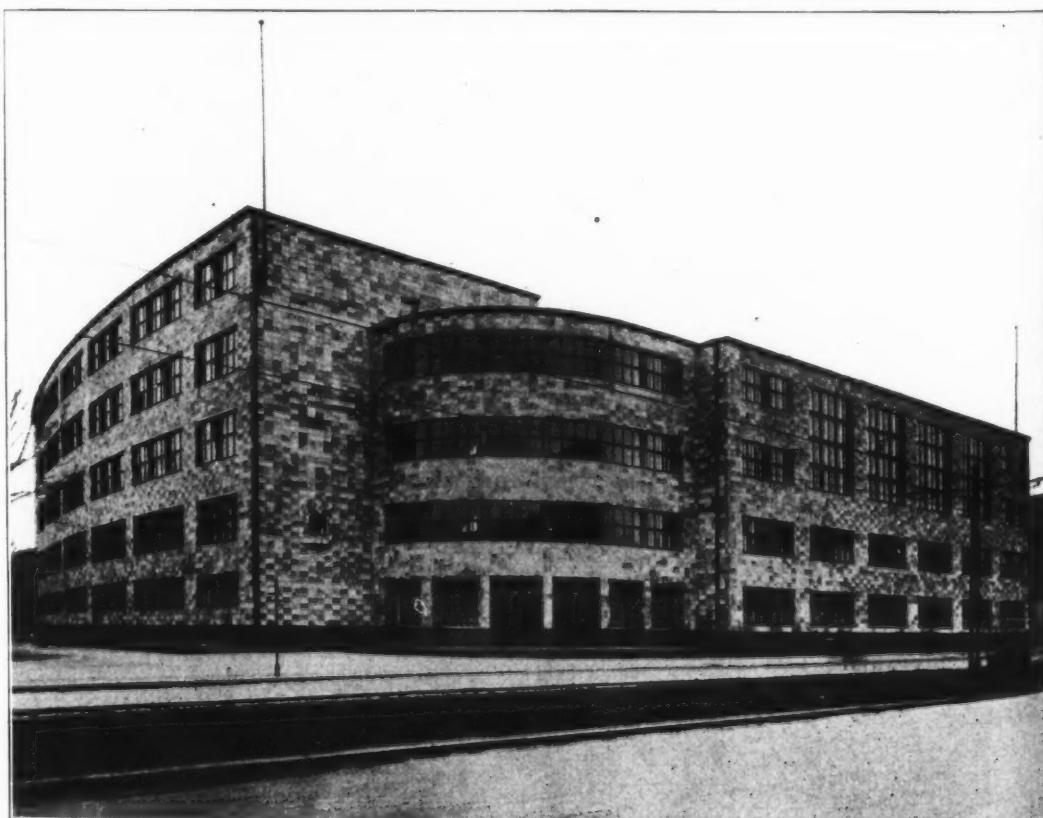
"At any rate," he said, "that is not the kind of loyalty I am recommending to our young friend who is learning to be a salesman."

"I am learning fast," Mr. Samuels said. "I have already accumulated two degrees and am anxiously awaiting the third."

Knowing the Use of Goods

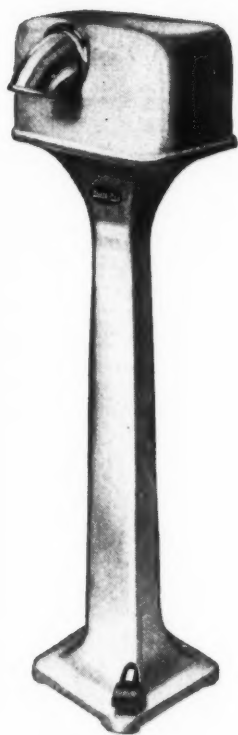
"The third degree," my friend continued, "is one which in another form all three of us have. In its abbreviated form it is represented by the letters 'U. S.' which in the field of citizenship stand for 'United States,' but in the field of selling stand for 'Understanding Salesman.' This degree requires considerable study and effort on the part of the student, for it involves a thorough understanding of the goods which the salesman sells and the use to which they are to

(Continued on Page 113)



NOT EXACTLY HANDSOME BUT VERY MODERN
This new model girls' school in Berlin, Germany, is believed to include the latest word in hygiene and equipment. The walls are curved to increase the total of direct sunlight which enters the classrooms.
(International News Photo.)

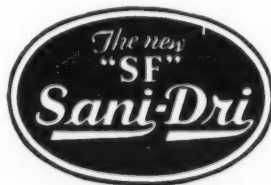
Here is an item of
washroom equipment
*that serves better,
saves more, and gives
continuous drying satisfaction.*



The new "SF"
SANI-DRI
provides

- a more thorough dry.
- instantly available service.
- improved washroom sanitation.
- continuous drying service without continuous towel bills.
- a saving of 60% to 90%, and thus pays for itself from its savings.
- freedom from paper towel litter.

Nearly all school equipment is important in the forward-looking program of American education. But doubly important is that equipment which concerns itself with standards of sanitation in the school washroom. Health and habits of personal cleanliness should not be dependent upon a fluctuating budget. Continuous drying service, extremely worthwhile economy and thoroughness of the dry are factors which should govern the choice of the service you provide. If you will check all of these factors against any towel plan you will find that the new "SF" SANI-DRI—the new type electric dryer—stands far in the lead in *service, savings and satisfaction* it offers your school . . . We have an interesting booklet which we should like to place in your hands. It tells the complete story of SANI-DRI'S outstanding features and why its twelve points of superiority offer a yardstick in determining washroom drying service values. Write for your copy today.



Electrical Division

CHICAGO HARDWARE FOUNDRY CO.

North Chicago, Illinois

SAFEGUARD Children's health



Onliwon Chromium-plated Cabinets for Towels

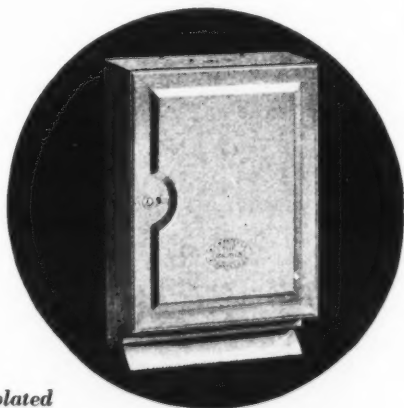
Serious epidemics in your school can originate through repeatedly used, common cloth towels and ordinary, harsh toilet paper in your washrooms. Because common cloth towels and harsh toilet papers spread diseases and infections.

Don't expose the children in your school to these grave dangers of contagion—especially when you can safeguard their health by equipping your washrooms with *Onliwon Paper Towels* and *Toilet Tissue*. Onliwon Service passes every hygienic test because it means individual, clean, fresh towels and pure, non-irritating toilet tissue, protected from dust and dirt by Onliwon Cabinets. A. P. W. Onliwon is the original, sanitary washroom service.

Onliwon Paper Towels are economical as well as sanitary. They are double-folded, which feature gives them double strength and double absorbency. It takes only one Onliwon Towel to completely dry the hands.

Onliwon Cabinets, too, feature economy as well as cleanliness. They will not release more than one towel or two sheets of toilet tissue at a time. They avoid waste and theft. Write today for full information to the A. P. W. Paper Company, 1227 Broadway, Albany, N. Y.

● A. P. W. is also the largest manufacturer of single-fold towels as well as the oldest manufacturer of roll toilet tissue.



Onliwon Chromium-plated Cabinets for Tissue

Pioneers for Cleanliness since 1877



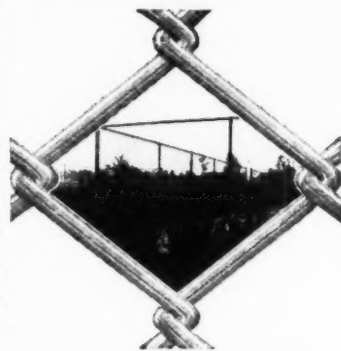
Fence for Permanence

Just as you build with brick for permanence, choose your schoolyard and athletic field Fence for its sturdiness and lasting qualities.

Stewart Chain Link Fence is erected with extra heavy framework set in concrete post footings. The copper-bearing steel fabric is galvanized after weaving. It is superior in other respects. Structurally it is the most enduring type of wire Fence developed to date.

Stewart Wrought Iron Fence is noted for its beauty of design, durability, long life and low price.

Let us estimate on your requirements and submit detailed specifications which will enable you to see the super-strength and time-resisting qualities of Stewart Fence. In the interim write for catalog on "Fences for Schools and Playgrounds."

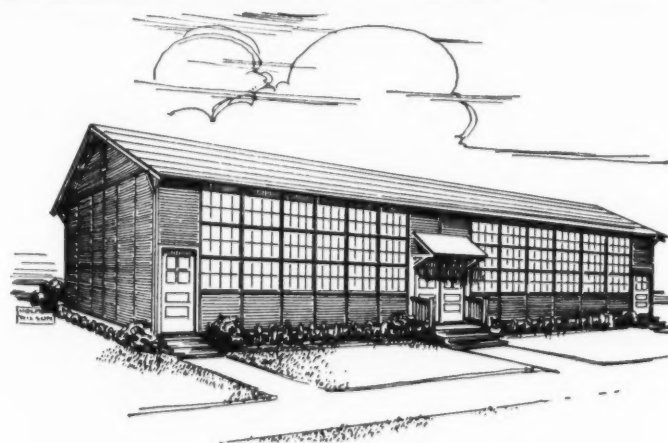


THE STEWART IRON WORKS CO., Inc.
705 Stewart Block Established 1886 Cincinnati, O.



Galvanized AFTER weaving by Stewart Hot-Dip Process

The only Fence with Oval-Back 1-Beam Post and 3-rib Channel Rail



PRACTICAL ECONOMY for OVERCROWDED SCHOOLS

The Minter Portable Twin School Building gives room and breathing space for overcrowded conditions in schools. Controlled light and ventilation. Easily kept warm in winter and comfortably cool in the warmer months. No waste space. Designed by school experts to meet the needs of our great educational systems. Can be quickly erected by local labor in record time. Tested by years of service in many localities.

MINTER HOMES CORPORATION

School Department.

Huntington, W. Va.

Bleachers

Gyms

Auditoriums

Buildings

ONLY A HALSEY TAYLOR PROVIDES THESE

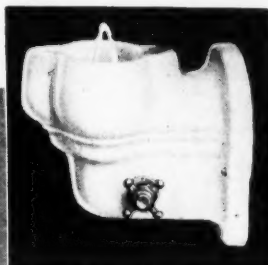
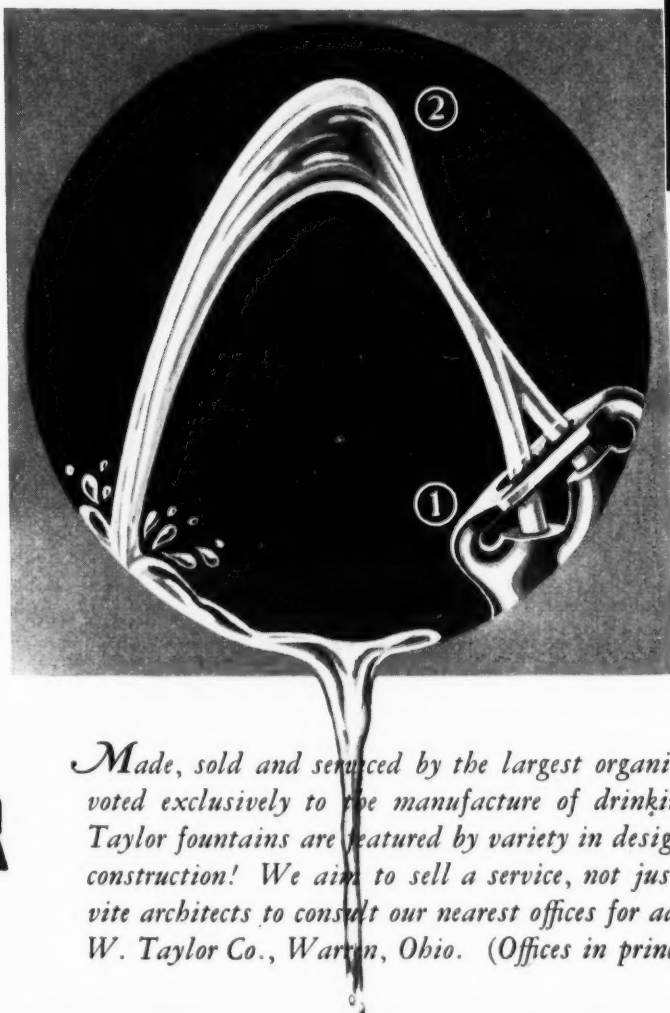
features --

①

THE two-stream projector is a distinctive Halsey Taylor feature! The drinking mound is formed by the converging of two streams and this localized mound guarantees absolute sanitation . . . Fingers or lips do not come in contact with or contaminate source of supply. Practical, safe, non-squirting too!

②

AN automatic device maintains a constant height in the drinking stream even though line pressure varies. Stream never too high, never too low —always at convenient drinking height!



No. 605

An ever-popular Halsey Taylor fixture of vitreous china with practical automatic stream control, assuring uniform height of drinking water at all times, and patented two-stream projector, providing utmost sanitation!

HALSEY TAYLOR

Drinking Fountains

Made, sold and serviced by the largest organization of its kind devoted exclusively to the manufacture of drinking fountains, Halsey Taylor fountains are featured by variety in design as well as scientific construction! We aim to sell a service, not just a fountain, and invite architects to consult our nearest offices for advice! • The Halsey W. Taylor Co., Warren, Ohio. (Offices in principal cities).

THE SPECIFICATION FOR SANITATION

(Continued from Page 110)

be put in the schools. One of the things which I like about the lead-pencil salesman who calls on me regularly is the fact that he can tell me where the wood and the graphite and the pigment out of which his pencils are made all originate, how steel pens and fountain pens are made, how to distinguish good ones from poor ones, and so much more information that is interesting and authoritative that I am now almost able to write an article for an encyclopedia on the subject."

"You have outlined a big job for me," Mr. Samuels said. "The catalog I carry shows more than five thousand different articles that I am authorized to sell."

"That is a big job," Al continued, "but it is only half the job of being an 'Understanding Salesman.' In addition to learning your line, you must learn to understand your prospective customers. That means you must practice a great deal of the psychology you learned in college. A review of the laws of learning, mind set, satisfactions and annoyances, and the like, would be, I should think, invaluable to you."

"Yes, I've been reading up on those psychological principles in a book on salesmanship which the salesmanager loaned me when I started out," Mr. Samuels said.

Al recommended to him one or two other books on the psychology of salesmanship, which he promised to read.

Fair Play in School Selling

"The next degree which I think you might profitably add to your collection carries the initials of a well-known firm of soap makers, 'P. G.' and in salesmanship the degree is called 'Playing the Game.' I am using it to describe the salesman who plays the game according to the rules. Such a salesman came to call on me about a month ago. He introduced himself by asking me if I would give him a bit of information as

to our purchasing technique and practice. He said he did not wish to violate any of our rules and regulations, call on any of the wrong persons, or fail to play the game properly in any respect. I gave him the information he requested and he thanked me and departed. I suspect, however, that we are going to buy something from him eventually, for he has begun by laying a good foundation of information as to just how we want the game played."

"That is a rather large order for Mr. Samuels," I interrupted. "How is a young fellow just entering the field of school-supply salesmanship to find out whether he should see the superintendent of schools, the purchasing agent, a principal, a teacher, a board member, a janitor, a political boss, a supervisor, or a P. T. A. president?"

"I was thinking the same thing," Mr. Samuels said. "I want to play the game according to the rules, but how am I going to learn the rules when every game I play has a different set of rules?"

"Your question is a good one," Al replied, "but the answer is as simple as the rules. Someone can always tell you the proper step to take or move to make. Inquire of the telephone girl, the office clerk, the janitor, or, like the salesman I referred to previously, of the superintendent of schools. Someone is sure to know and be able to tell you how to play each particular game according to its particular rules. Make notes on your first round of calls and your succeeding calls will be comparatively smooth and easy as far as making right contacts is concerned."

Mr. Samuels was busy making notes and in a minute he looked up with pencil poised. "What other degrees have you to bestow on me this morning?" he asked.

The Good Loser

"Well, another degree that I think of right now," Al replied, "is the degree of 'G. S.' My

daughter is a Girl Scout and that fact is what suggested it to me. A Girl Scout is always a 'Good Sportsman' and so is a good salesman. Good salesmen, like Girl Scouts and all other good sportsmen, are modest winners and good losers. We bought our year's supply of coal on bids last year and a rather small, but reliable, firm in the city landed the contract. All of the losing bidders but one were good sportsmen. They warmly congratulated the successful bidder and some of them told him that if he needed help in filling the contract or delivering the coal he could count on them. One bidder was a poor loser, a poor sportsman. He endeavored to pull political wires and personal and fraternal connections to win the business, but all he succeeded in doing was to remove himself permanently from our list of invited bidders. This business of being a good loser is one of the hardest but probably the most important lessons a young salesman has to learn, for the good loser always leaves an open door and a friendly feeling behind him which is worth infinitely more than any immediate advantage he might gain by unsportsmanlike methods. One of the meanest and most despicable practices which some poor salesmen engage in is going to school-board members over the heads of employees when they have lost contracts or failed to get orders. It is a practice of which I hope you, my protégé, will never be guilty."

Mr. Samuels promised he would faithfully observe the injunction. "I have made notes in my notebook of all these degrees," he said, "and I intend to learn them by heart and to practice them, so that by the next time I call I can honestly tell you I have earned the right to inscribe them after my name. But have you any other degrees to confer on me this morning?"

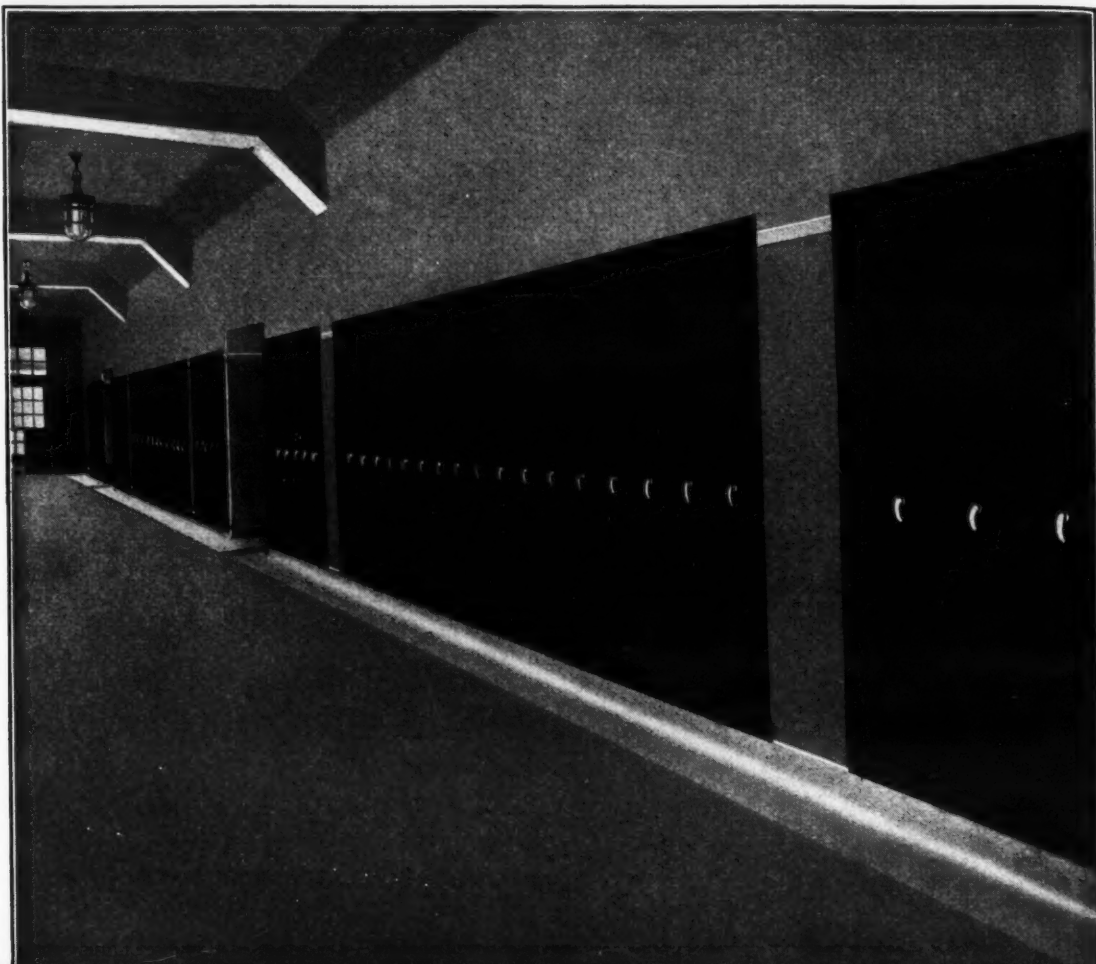
"No," Al said, "I haven't any more, but I can think of three other degrees, any of which

(Concluded on Page 116)

**And
Now!**

**. . . . The New
Medart Locker**

**Quiet-Action
Self-Latching
Self-Locking
Brown Finish**



MEDART LOCKERS



Quiet Action—Self-Latching, and optional Self-Locking—these three vital features are embodied in the new MEDART Multiple-Latch Locker. The new MEDART Locker design assures quiet operation—no motion of locking rod at the moment of closing—permanently cushioned stops at top, bottom and center of the door frame. MEDART offers a door that will not bounce open when slammed—no more unsightly corridors with doors ajar. With the new MEDART Locker you can gently push the door shut or slam it shut; either way it *QUIETLY* latches at the first contact. MEDART Lockers now may be so equipped as to lock by turning key or combination—or equipped to lock by merely closing the door.

Choice of Three Standard Colors

In addition to the usual Olive Green and French Gray finishes, MEDART offers the new School Furniture Brown, at no extra cost. A brown which will withstand the same rigid tests as the green or gray. Not just another color, but a fully developed and thoroughly tested baked-on locker finish.

Send for Locker Catalog

Fred Medart Manufacturing Co.

Potomac and DeKalb Sts.
St. Louis, Mo.

511 W. 42nd St.
New York City

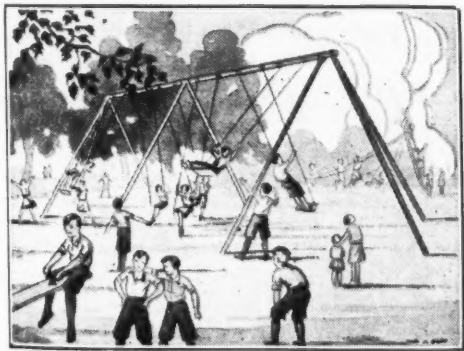
Engineering Sales Offices in Principal Cities

Modernize - - - with MEDART

A recent installation of Medart Gymnasium Equipment at the Western Kentucky State Teachers College, Bowling Green, Ky. Brinton Davis, Louisville, Ky., Architect.



GYMNASIUM EQUIPMENT



Playground Apparatus

Is your playground equipped to provide fun for all the children entering school next year? The most successful playground is one with enough equipment to provide fun for all; enough diversity in equipment to keep the interest of the children alive—to cater to their desire for thrills and variety. MEDART Playground Apparatus provides all these features of fun, variety, safety and durability that make for a successful playground.

The MEDART organization will be glad to help you plan an addition to your playground without obligating you in any way.

Send for Catalog

Now is the time to modernize your gymnasium—MEDART Gymnasium Equipment is as modern as 57 years of manufacturing experience can make it. The growth of the MEDART Organization with the Physical Education movement, the experience of over half a century in making gymnasium equipment, gives an authoritative background. The care in design, the huge production facilities, and the knowledge of MEDART of what is required in superior equipment, makes MEDART Gymnasium Equipment ideal for your requirements.

If you are planning to build a new gym or remodel your old one, the MEDART Engineering Service is at your disposal in planning the most efficient and economical installation of equipment. This service places you under no obligation whatever.

Send for Gym Catalog

Fred Medart Manufacturing Co.

Potomac and DeKalb Sts.
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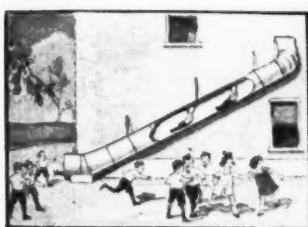
Engineering Sales Offices in Principal Cities

In case of fire

get them away from the center stair cases to the outside of the building, the quickest, safest and happiest way

A fire escape, like any piece of apparatus, must prove its value in actual use.

The fire test is the only manner of proving a fire escape. 3% of the schools and hospitals Potter-equipped have had fires, and not a single casualty or injury have resulted either in actual fires or fire drills.



OVER 3080

now in use. Many with service records and no death or injury reports.

Approved by the Underwriters' Laboratories. Constructed and installed in strict accordance with their specifications.

POTTER

Tubular Slide
Fire Escape

MANUFACTURING CORPORATION

1858 Conway Bldg. Chicago, Ill.

WILL YOU GIVE THEM THIS Extra Health Protection?



THE U. S. Bureau of Education states that eyestrain in children is due in many instances to bad lighting in classrooms. Excessive light and glare may seriously affect the mental and physical well-being of the children in your care.

To eliminate classroom eyestrain, equip your school with *adjustable window shades* . . . shades that can be drawn up or down . . . that cover just the window area necessary to shut out excessive light and the sun's glare.

Draper shades are made with the famous easy cleaning, long-lasting DRATEX Cloth—a pliable, remarkably strong fabric of uniform texture, guaranteed not to crack or "pin-hole".

Give your students the eye protection that Draper Adjustable Shades afford—for they may be let down from the top, admitting the valuable top light, which is always the *best* light. Made from special Dratex shade cloth, these shades keep out all glare but admit a maximum amount of soft, luminous light.

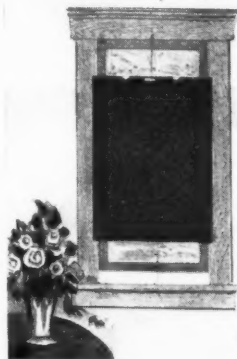
Equip your new school . . . or re-shade your old school with Draper Adjustable Shades . . . America's most widely used school shades. Interesting literature and sample of Dratex cloth sent free to educators. Please address Department A. A.

THE BEST LIGHT ENTERS THROUGH
THE UPPER THIRD OF THE WINDOW

LUTHER O. DRAPER
• • • **SHADE CO.**

MAKERS OF BETTER SHADES FOR
OVER A QUARTER CENTURY

SPICELAND . . . Dept. A. A. . . . INDIANA



(Concluded from Page 113)

your salesmanager or other superior officer is ready to confer upon you at any time, changing it as often as circumstances warrant."

Fighting Upward

"What are they?" Mr. Samuels asked and I echoed the interrogation.

"Well, these are degrees which any person in charge of a sales force constantly uses in evaluating his workers. The first one and the least desirable is the degree of 'P. S.' In our youthful days we learned that those initials stand for 'Post Script,' but in the selling business they stand for 'poor salesman.' There is a sort of connection between the two, for the poor salesman like the post script is frequently left out, frequently omitted. This species is so ubiquitous and so well known that it needs no detailed description. It is a degree you should avoid having conferred on you. Another degree which your salesmanager has at his disposal at all times is the degree of 'A. D.' It represents the Latin abbreviation for year in legal documents, but in salesmanship and also in golf, as I play it, it stands for 'Average Dub.' It is a degree that describes a salesman who is slightly too good to be fired but not quite good enough to be advanced. The middle 50 per cent of nearly every sales force probably bears this degree."

"And what's the third degree in the battery of the salesmanager?" Mr. Samuels asked breathlessly.

"The third and last degree is also a patriotic one, 'U. S. A.' In salesmanship, however, the letters need a slight rearrangement to make them represent the 'Upward Aspiring Salesman.' He is the person who has entered the field of salesmanship as a lifework, a profession, has studied to fit himself for it, keeps himself up to date, wears good clothes, drives a clean and attractive-looking car, makes a good impression because he is a good person, both physically and

morally, earns a good living, and by the time he is middle aged will be promoted to higher offices in his organization. A typewriter salesman calls at my office occasionally, and the last time he was here he proudly displayed a diamond-studded emblem on his coat lapel which attested the fact that he had led his local agency in sales during the past year. He was an 'Upward Aspiring Salesman,' but he didn't need to wear a diamond-studded badge to prove it. Similarly, the poor salesman and the average dub salesman do not need to wear badges to distinguish them from the upward aspiring ones. However, if you or any other salesman may be in doubt as to which of these three degrees the salesmanager thinks you have earned, you can receive information having a high degree of accuracy on this subject from the treasurer or paymaster of your firm. A glance at your pay check is quite likely to tell you which kind of salesman you are."

Just then Al's secretary entered the office and announced that one of the members of the board of education wished to speak to him for a few minutes, and the interview suddenly came to an end.

PER-CAPITA COST OF EDUCATION IN CITY SCHOOLS

The U. S. Office of Education, in a recent statement calling attention to the per-capita cost in city schools, shows that 60 cents covers the cost of one day's education for a child in an American public school.

The study, which divides representative cities into four groups on the basis of the 1920 census, points out that Yonkers, N. Y., expends annually an average of \$2,837 for salaries, ranking first, while Rome, Ga., expends \$781, for services of this kind, averaging the least.

The total average annual cost per child for teachers' service, school supplies, books, and library facilities, is \$108.87. Since instruction costs, which include teachers' salaries, books, and library, make

up three fourths of the total school costs, the city child gets the service of trained teachers and useful textbooks for about 47 cents per day or 8 cents per hour.

The largest amount paid for instruction in Group I was in Yonkers, N. Y., where it amounted to \$129.89 per child in average attendance, while the lowest amount was in Norfolk, Va., or \$52.52 per child, the median of this group falling at Bridgeport, Conn., with an average of \$76.36 for this purpose. The outstanding reason for this variation lies in the amounts paid for salaries. The average amount paid for salaries and expenses of supervisors, principals, and teachers is \$2,837 in Yonkers, \$2,037 in Bridgeport, and \$1,404 in Norfolk, for the school year 1929-30.

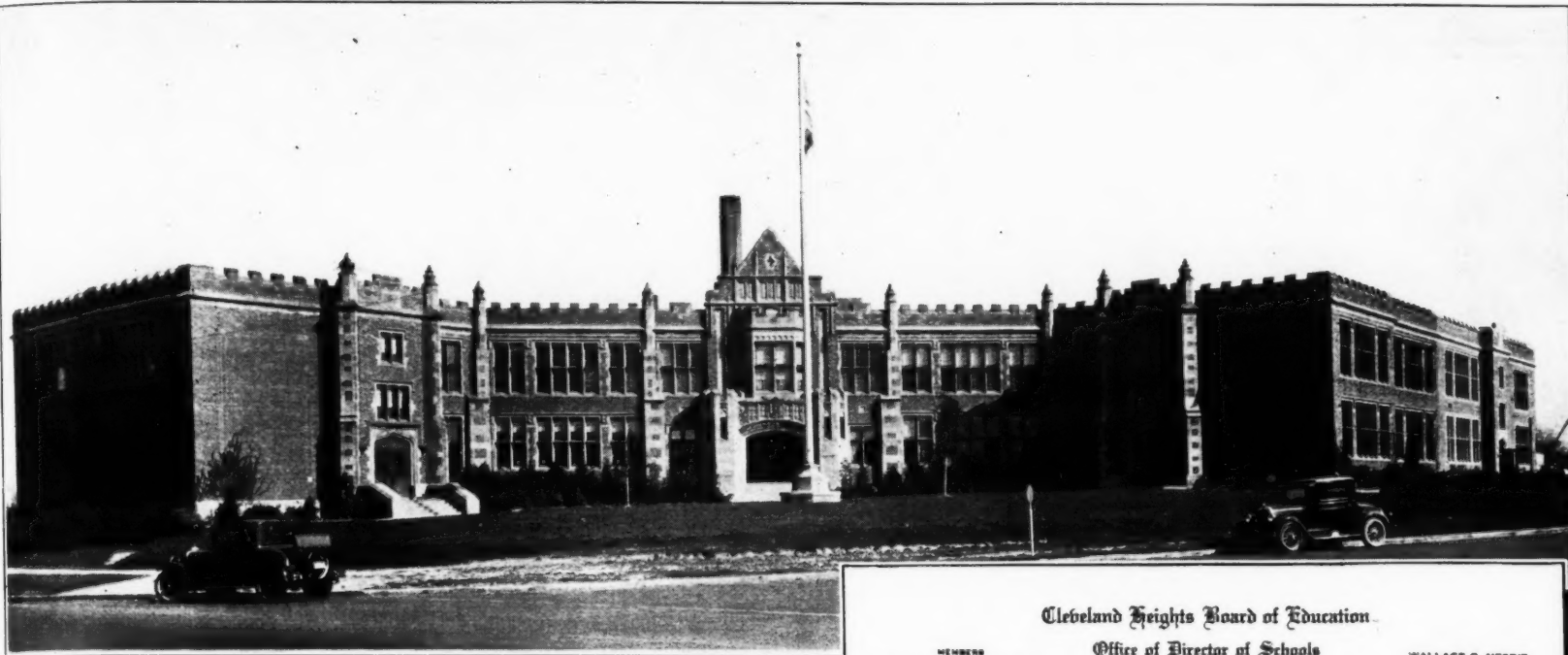
In Group II the cost of instruction ranged from \$150.16 in Montclair, N. J., to \$35.60 in Montgomery, Ala., the median of the group being Allentown, Pa., with an average expenditure of \$72.69 per child in average attendance. The average amounts paid supervisors, principals, and teachers in these cities were as follows: Montclair, \$2,830; Allentown, \$1,912; and Montgomery, \$1,050.

Hibbing, Minn., leads in the cost of instruction in Group III cities with an average expenditure of \$139.49 per child, while Rome, Ga., expended the least, \$24.44. In this group, the median city is Fremont, Nebr., with an instructional cost of \$63.65. The average salary expended in each of these cities was: Hibbing, \$2,450; Fremont, \$1,537; Rome, \$781.

In Group IV, Piedmont, Calif., is at the head in instruction cost with an average cost of \$123.82 per child, while the lowest amount expended for this purpose was in Anadarko, Okla., which expended \$33.77. In this group, Brunswick, Me., is the median, expending \$60.32 for instruction. The average cost of personnel in each of these cities was: Piedmont, \$2,390; Brunswick, \$1,104; Anadarko, \$1,049.

♦ W. D. Moss was elected member of Marion, Ind., school board.

♦ Harmon K. Morgan is the new member of the Clinton, Ind., board of education.



"THE FLOORS IN OUR SCHOOL HAVE CAUSED MUCH FAVORABLE COMMENT," says the Director of Schools at Cleveland Heights

Your floors can be made to reflect credit to your School too if they are maintained with Vestal Products.

"Your Products Have Been Used as Standard on All Our Wood and Linoleum Floors for the Past Two Years," further writes Mr. Wallace Nesbit, Director of Schools.

Now during vacation time PYRA-SEAL and PYRA-COTE your floors and end your floor troubles.

Write us regarding VESCO-SEAL, the permanent Gymnasium Floor Finish.

Cleveland Heights Board of Education

Office of Director of Schools

Cleveland Heights, Ohio

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DIRECTOR OF SCHOOLS
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CLERK

March 24, 1931.

The Vestal Chemical Co.,
St. Louis, Missouri.

Gentlemen:

The floors in our schools have caused much favorable comment by school authorities and visitors in general. You will undoubtedly be interested in this, as all of these floors are treated with your products.

I am naturally quite pleased with the results obtained, because floors and floor treatment have been my hobby for over seven years. During this time I have had products of various manufacturers put through all kinds of tests. As a result of my experience and these tests, your products have been used as standard on all of our wood and linoleum floors for the past two years. The floors treated with Vesco-Seal and Vesco-Lite or Pyra-Seal and Pyra-Cote have proven very satisfactory. Although either material produces a good looking, easily maintained floor, Pyra-Seal and Pyra-Cote have been adopted as our standard. This treatment gives the floors a clear wax finish that is non-slippery and easily and cheaply maintained. Scrubbing has been entirely eliminated, and I have found that it is only necessary to machine polish the worn parts once a year. The daily cleaning retains the brilliant natural finish of the wood.

I gladly welcome the inspection of my floors at any time by any one who is interested, and can be referred to for more information regarding the treatment I have followed.

Yours very truly,

Wallace G. Nesbit
Director of Schools.

WGN:MT

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Vestal Chemical Laboratories, Inc.
St. Louis, Missouri

Please send literature and further information about the VESTAL METHOD of WOOD FLOOR MAINTENANCE.

Name _____

Address _____

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*Mail the
COUPON
Today*



Vestal Treated Wood Floors leave a clean, hard surface, easily and economically maintained. All they require is a light sweeping each day with a Vestal Buffing Mop to keep them clean and beautiful.

A Vestal Floor Maintenance Engineer will make a survey of your floors and submit recommendations.

VESTAL CHEMICAL LABORATORIES, INC.
ST. LOUIS NEW YORK

Letter Boxes for Schools Key and Combination



No. 85
Size 3 3/8 x 5 inches



No. 1702A
Size 5 1/2 x 6 1/4

No. 85 Combination Letter Box Made in 3 Sizes

Cast Bronze, regularly finished medium statuary. Dials etched, figures raised on black background. Combinations all different.

No. 1702A Key Letter Box
Cast Bronze, medium statuary finish. Pin tumbler lock. 3 keys with each letter box. Key changes practically unlimited.

Special finishes where required. All boxes furnished with pigeon holes of various depth.

Send for Catalogue No. 57 showing additional styles and sizes.

Manufacturers of letter
boxes for 50 years.



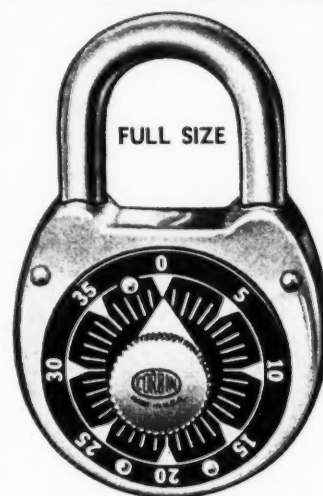
The Ideal Size Combination Padlock

With Exclusive Features for
Lockers and Gymnasium Wire
Suit Baskets.

LOCKS AUTOMATICALLY

The Unique Corbin Feature in the Padlock is that it Cannot be Left Unlocked when the Shackle is closed.

When the lock is open, it retains the combination, and when closed automatically throws off the combination, thus eliminating the necessity of manipulating the dial, which is necessary on ordinary combination padlocks to insure locking.



No. 9919 All Brass. No. 9919 Steel, black japanned. No. 9919 3/8 Steel, cadmium plated. Size 1 3/8 inch. No. 9920, etc. Size 2 inch.

FOURTEEN QUALITY FEATURES

1. Beautifully proportioned and designed.
2. Made all brass or steel, black japanned or cadmium plated.
3. Hardened steel, cadmium plated shackle.
4. Brass knob.
5. Interior brass parts.
6. Made in two sizes, 1 3/8 and 2 inches.
7. Etched brass dial with white figures on black background.
8. Locks automatically.
9. Retains the combination when in an unlocked position.
10. An unlimited number of combinations possible.
11. Superior protection.
12. Easy and smooth in operation.
13. Rust proof.
14. Fool proof.

CORBIN CABINET LOCK CO.

The American Hardware Corporation, Successors
NEW BRITAIN, CONN., U. S. A.

NEW YORK
96 Lafayette St.

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319 W. Randolph St.

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405 Commerce St.

A sample lock will be sent gratis to school executives upon request for inspection.

CHICAGO CORRESPONDENCE

The home of one of the high-up officials in the Chicago public school system, the chief engineer, was bombed recently. Although members of his family were shaken up and shocked, there was no personal injury. Considerable damage was sustained by the building. Labor troubles are surmised to be at the bottom of the difficulty. The chief engineer has received many anonymous threatening letters in the past, and has had to appeal to the state's attorney heretofore.

"Model boy" is what the newspapers dubbed a youthful school boy who recently shot to death a policeman who caught him and his two companions splashing in the Marshall senior high school swimming pool after they had broken in and looted the school on Memorial Day. "Model murderer" is what the widow of the policeman screamed at him at the inquest (she now has a fatherless three-year old child).

According to the testimony, this 15-year old boy, his 13-year old brother and a 15-year old companion, all school boys, have been breaking into the school at intervals and looting the principal's office and other rooms. Some time ago this boy stole a 22-caliber revolver from the gymnasium of the school (it had been used with blank cartridges as a starting pistol). He purchased ammunition and started carrying the gun. When the policeman, who had been summoned by a janitress, came upon the boys, they were swimming in the school's pool. While dressing, this boy got his gun, and shot the policeman.

Unusual features of the case were that the boy's mother is an elementary school teacher, and the youth is a Boy Scout who has won five merit badges for excellence in carpentry, firemanship, cooking, wood craftsmanship, and swimming.

The father had discovered the boy was carrying a gun, but only told him "to get rid of it."

The public frequently says the schools are to blame for such happenings. The schools retort that parents are to blame. Here is a case involving a teacher-parent situation.

One of Chicago's leading bankers has just announced his intention to buy a ten-acre tract in

Hyde Park on the south side of the city and donate it to the school board for a playground. Its value is \$550,400.

The school authorities have been wanting that particular site for a long time, primarily for a new junior-high-school building. However, because of the tremendously high values of all property in this attractive and built-up neighborhood, the idea of getting it had been given up as too prohibitive in cost. These officials are especially pleased at the

philanthropy of Banker Albert W. Harris for all of the nearby schools are totally lacking in playground space.

This site has been tied up in litigation until recently. It has remained vacant although the entire surrounding area is improved with high-class apartment buildings. Ordinarily taxes would have piled up so high that no one could afford to have kept the land unimproved. However, for taxation purposes it was classified as farm land, and to retain this classification, a cow was pastured on the tract and a small patch of corn was raised yearly on a portion of it.

Chicago is in so serious a financial predicament that the difficulties of the past two years seem pale by comparison. During the height of prosperity, Chicago paid no taxes (for over two years) because of a "reform" reassessment of property valuations. Naturally, most people spent the money which would have gone for taxes. In the meantime the depression has come. Thousands are out of work. Real estate cannot be sold. Banks are closing. And now the people are confronted with the payment, not only of current taxes, but the back taxes which should have been paid long ago. The 1929 tax bills were due to be paid May 15, 1931. However, fully 50 per cent of the taxpayers did not pay their tax bills, due partly to inability, and partly to a passive taxpayers' strike.

The schools are hard hit. The board of education can no longer borrow from the banks, even though they pay 6 per cent interest, the legal limit. In lieu of salaries due them, the board proposes to offer the teachers scrip based on 1931 tax anticipation warrants. Since the banks will not loan directly to the board of education on tax anticipation warrants, the teachers see little prospect that they can induce the banks to cash this scrip. The school trustees hope that the grocer and the butcher will accept scrip at face value, but the teachers have so little faith in this that they are organizing to fight the plan. The teachers fear that thousands will be thrown into the clutches of loan sharks who will exact exorbitant interest for loans, or else that the scrip will be cashed only at a severe discount under its face value.

(Concluded on Page 120)



SUPT. W. J. BOGAN SPEAKING AT THE CORNERSTONE
LAYING OF THE NEW LANE TECHNICAL
HIGH SCHOOL



Six types of lockers that answer every school need.

Storage cabinets that save time and materials.

Steel safes which insure thorough protection.

WHAT EVERY SCHOOL NEEDS



Steel files in 1-, 2-, 3-, 4- and 5-drawer heights.

Steel desks of beauty, strength and efficiency.

Adjustable bookshelf units of steel for economy in space and cost.

BERLOY EQUIPMENT OF STEEL

Designed and built on the basis of a thorough knowledge of school needs acquired through serving school interests nation-wide during the past 45 years . . .
BERLOY stands as a dependable

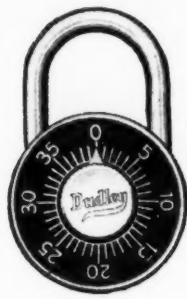
source of supply for whatever is needed in steel equipment. The Berger Manufacturing Co., Division of Republic Steel Corporation, Canton, Ohio . . . Branches and Dealers in Principal Cities . .



A . DIVISION . OF . REPUBLIC . STEEL . CORPORATION

LEADERSHIP

is the truest index
of merit



THERE are more Dudley Locks in American Schools than any other make.

Dudley Locks also lead in the newest lock inventions. Dudley pioneered the self-locking device and other improvements which have produced the strongest, surest, "easiest-to-operate" lock of all.

If you have a locker problem, write for information to the world's largest manufacturer of combination locks.

Sample Lock Sent for Free Examination.

DUDLEY LOCK CORPORATION
26 North Franklin St. Dept. A-17 Chicago

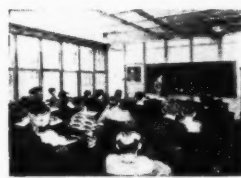


DUDLEY LOCKS



BRIGHT, AIRY, QUICKLY ERECTED SCHOOL BUILDINGS

insulated against Heat and Cold



Circle A buildings provide attractive quarters that solve many school housing problems. Class rooms . . . gymnasiums . . . lecture halls . . . chapels . . . all can be erected in a few weeks' time, to stand permanently or be moved whenever desired.

Cost is moderate. Construction is stronger than most frame buildings. Four-layer thick walls provide protection against both heat and cold. Write today for illustrated catalog showing over 50 building illustrations, plans, and data.

CIRCLE A PRODUCTS CORPORATION
600 S. 25th St., Newcastle, Ind.

Also manufacturers of: Circle A Folding Partitions, Rolling Partitions, School Wardrobes, Steel or Wood Portable Bleachers, Portable or Permanent Steel Grandstands

CIRCLE A SCHOOLS

Portable

(Concluded from Page 118)

Unfortunately, the state legislature and the city administration, really Downstate versus Cook county, are at loggerheads. The Cook county representatives recently killed a state income tax bill (by two votes) which downstate wanted. Now Chicago wants several remedial laws passed but the downstate legislators do not heed. There is also the complication of a Democratic city administration in Chicago with a Republican-controlled legislature.

The school building construction program is wavering. There is no money with which to pay the contractors, and they in turn to pay the men who are working on the buildings. Nearly \$16,000,000 worth of buildings are now in process of construction. All of this work, employing thousands of persons, is about to be stopped.

One of the trustees has introduced a resolution for the board of education to seek permission of the legislature to issue \$50,000,000 in bonds so that a huge building program can go forward at once. The plan contemplates payment of principal and interest from the present building fund annual tax income without increasing taxes, but does not propose to have a referendum before putting it into operation.

The arguments used in behalf of the new proposed policy are: (1) There are 62,000 school children now housed in irregular accommodations. (2) Interest charges on bonds are only 4 per cent whereas the school board is now paying 6 per cent on anticipation warrants. (3) Prices of building materials are 30 per cent lower than any time in the past 15 years, consequently a great saving can be effected on building, which, if not built this year, must eventually be constructed. (4) A total of 90,000 of the 125,000 men in the building trades of Chicago are now out of employment. A school building construction drive would be the instrumentality to start the return of prosperity.

The arguments used against the proposed new policy are: (1) Chicago has long been lauded for having the soundest school building finance plan of any city in the country. Capital outlay has always been financed out of current tax income. The

Cleveland Audit Company, after surveying the Chicago system, praises this policy as one of Chicago's most notable contributions to public financing, and excoriates the plan of shifting to a bond issue policy. (2) Saddling \$50,000,000 more on the overburdened taxpayers, plus the interest charges, would be enough to start a revolution, according to one trustee. (3) Since no provision is made for funds to maintain and operate the 45 to 50 new buildings, they might stand empty with only watchmen occupying them, another trustee predicted. (4) Chicago's new mayor is quoted as being opposed to the bond issue plan, and the two board members appointed by him are fighting it.

Although the board of education agreed to the new policy by a strictly party vote, seven Republican members appointed by the previous mayor to two Democratic members appointed by the new mayor, it is unlikely that the state legislature will pass a bill permitting it, especially because of the short amount of time before that body adjourns.

Lewis E. Myers, millionaire head of the L. E. Myers Construction Company, has been reelected president of the board of education. Walter Brandenburg, plasterer contractor, was supplanted as vice-president by Oscar Durante, editor of *D'Italia*.

Phi Delta Kappa, a professional fraternity in education with permanent headquarters in Chicago, has just issued a 409 page directory listing "Who's Who" data regarding its 12,000 members scattered throughout the United States and 30 foreign countries.

The Chicago schools have been feeding thousands of children who have been unable to buy their own food at school, and plans are afoot to feed some needy children during the vacation period. The Chicago teachers have personally donated over \$111,000 to needy school children and their families during the past school year. The board of education passed a resolution commending the teaching force for having done this.

FINANCE AND TAXATION

♦ Maywood, Ill. The high-school board has reduced the school-tax levy of 1930 by \$40,000. This is a reduction of 10 per cent on the original tax

fund of \$400,000 and means a reduction of 10 per cent in the high-school tax rate.

♦ Rocky River, Ohio. The school board faces the necessity of cutting \$44,000 from its operating budget for next year, due to tax delinquencies. Among the economy measures proposed to meet the situation are the closing of one of the schools, and the elimination of teachers and certain subjects. Parents of school children have protested the action and have urged that a horizontal reduction in the salaries of school employees be put in operation.

♦ Barberton, Ohio. The school board has reappointed 147 principals, supervisors, and teachers for next year. Each contract contained a stipulation that a shortage of school funds may require a deduction of two weeks in salary. No increases in salary were given for the next school year.

♦ Plymouth, Ohio. The school board has eliminated four teachers and reduced the school year to eight months, with a saving of \$6,200.

♦ Defiance, Ohio. The school board has inserted a clause in each teacher's contract, providing that the board, as an economy measure, may shorten the school year from 38 to 36 weeks, with a deduction of two weeks' pay for the teachers.

♦ Xenia, Ohio. The school board has voted to employ the teachers from month to month, leaving a way open for curtailment of the school year if the funds run short. The action was taken because of the uncertainty as to the revenue available for school purposes. The present financial situation is attributed to increased tax delinquencies, a reappraisal of real estate, and an anticipated shrinkage in the county tax duplicate.

♦ The school district of Corona, Calif., recently sold \$85,000 in school bonds to a bonding house, with a premium of \$3,008 for \$50,000 worth of high-school bonds, and \$2,768 for \$35,000 worth of elementary-school bonds. Both issues carried interest rates of 5 per cent.

♦ Arnold, Pa. The citizens have approved a bond issue of \$80,000 for the first unit of a junior-senior high school.

Automatic Latch Rod and Handle Control

Assures **POSITIVE** Latching
and Quieter Operation at Lower Cost

Raise Handle
and Open Door!

Push Door
Shut!

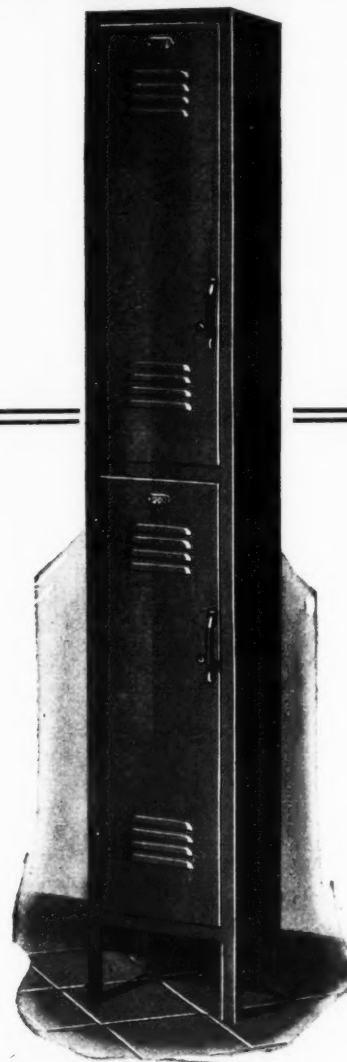
Latch Rod
Stays Up

Latch Rod
Drops

Supported
by this Ledge
on Spring
"A"

Pulled Down
by Spring
"B"

After Spring "A" has
been pushed back by the
latch keeper, from under
the latch rod.



**NOR-WEST
DOUBLE TIER LOCKERS**

Permit maximum storage capacity in
limited floor space. Available in 3
heights, 30, 36 and 42 inches.

SINGLE TIER LOCKERS, providing
plenty of room for street clothes to
hang full length, are available in two
heights, 60 and 72 inches.

YOU do not need to be "mechanically inclined" to recognize the superiority of Nor-West Steel Lockers.

Just open the door of a Nor-West Locker! Note how quietly the latch rod operates. Click! The rod stays in a raised position—held firmly in place by a simple spring assembly, eliminating the clanging noise caused by the rod dropping.

When the door is slammed shut it cannot bounce back before latching! A

coiled spring—found exclusively in Nor-West Lockers—automatically pulls the latch rod down the instant the door is closed.

The automatic and positive latching of Nor-West Lockers eliminates the unsightly appearance of partially-closed locker doors. It assures quieter operation, and minimizes wear and maintenance costs.

A catalog describing Nor-West Lockers in detail will be mailed you upon request.

OTHER NEW DEVELOPMENTS OF NORWEST STEEL LOCKERS

1. Quieter Operation — irremovable, treated leather bumpers.
2. Improved Appearance. New, simplified design.
3. Improved Door Construction—concealed, full loop hinges.

NORTHWESTERN STEEL PRODUCTS COMPANY

MAKERS OF STEEL LOCKERS, STEEL SHELVING, STEEL STORAGE CABINETS, ETC.

4545 West Homer Street Chicago, Illinois

CONSIDER THESE ADVANTAGES OF THE ROCKFORD

*Master Keyed — Self Locking
Combination*

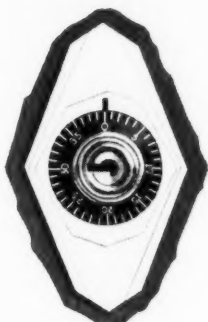
LOCKER LOCK

MASTER KEYED For Convenient Supervision — Can be master keyed in series with Rockford shackle and drawer lock so that one Master Key gives School Authorities quick, easy access to all School Compartments including Laboratory and Vocational furniture.

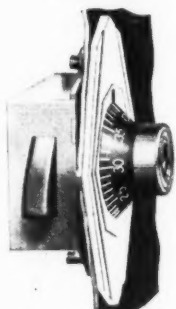
SELF LOCKING Feature Guards Against Carelessness — Automatically locks when the door is closed. The Student need not turn the Dial. The Supervisor knows that when the door is closed it is locked. Throws off combination automatically.

NEAT, MODERN AND ATTRACTIVE — The well proportioned, modernistically designed Escutcheon Plate is finished in dull chromium. No rivet heads or bolts are visible.

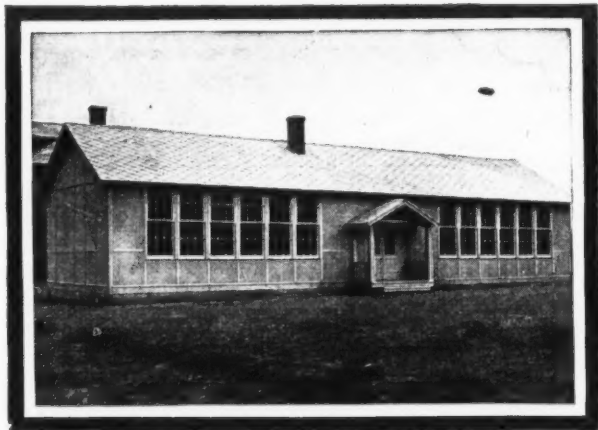
Now available as standard Locker equipment. Specify the **ROCKFORD** Self Locking Locker Lock and enjoy the added convenience, safety, accessibility, easy supervision and combination change advantages which it provides.



No. 267



*National Lock Co.
Rockford, Illinois*



TOO COSTLY? Consider this less costly way

When you decide to erect a modern, fireproof Ambler School Building instead of a much more costly structure, don't feel you compromise, or that you build only to tide you over. Ambler School Buildings provide all that you can possibly wish for, in Permanence, Convenience and Safety. Many school boards faced with the "TOO COSTLY RIGHT NOW" problem have had their needs amply provided by an Ambler Building. Investigate! Catalog shows variety of sizes. A valuable reference book you should have. Sent Free.

Asbestos Buildings Company

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Liberty Title and Trust Co. Bldg., Philadelphia, Pa.

AMBLER
FIREPROOF ASBESTOS
SCHOOLHOUSES



FOR POSITIVE KEY CONTROL

TELKEE

—the Visible Key-FILING —

— Key-FINDING System

TELKEE is serving thousands of Schools and Colleges throughout the country for the orderly care of keys.

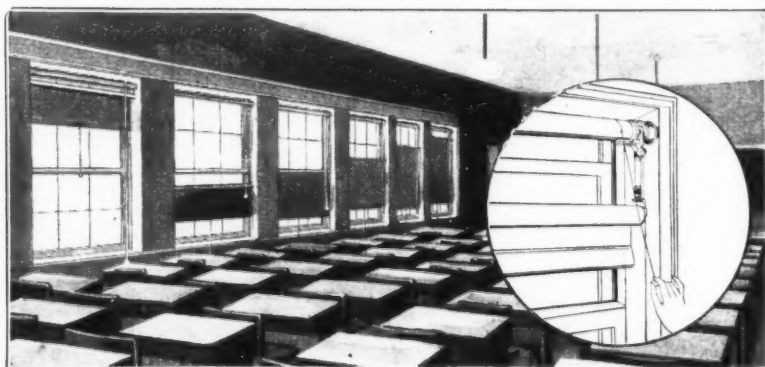
TELKEE Devices are so simple and so flexible in their application that they meet every key filing problem from the smallest to the largest requirement.

In the TELKEE Visible System all keys are protected in steel filing units controlled under one lock by persons with authorized access. Write for complete description.

Thayer TELKEE Corporation

114 E. 17th Street, Los Angeles, Calif.

Equip With Ev-El-Eth



Shades carried by the EVELETH ADJUSTERS afford a hitherto unknown degree of:

comfort to the child

Because of perfect adjustment enabling him to receive benefit of properly regulated light without danger of eye-strain.

enjoyment to the teacher

Because Ev-el-eth Adjusters operate so easily and quietly. Because they add to the tidy appearance of the room. The adjusting cord, although very strong, is light in weight and is placed inconspicuously at one side.

Because shade is held in perfectly level position at any desired height. The annoyance caused by shades tilting at various angles is unknown where Ev-el-eth level Adjusters are properly installed.

satisfaction to the School Board and Purchasing Committee

Because of moderate first cost. Because of carefully selected materials and sturdy construction assuring a long term of service. Because of the automatic hook which does away with the anchoring of cord to wall or casing.

Further information will be sent upon request.

EVELETH MFG. CO.

11 Ashland Ave.

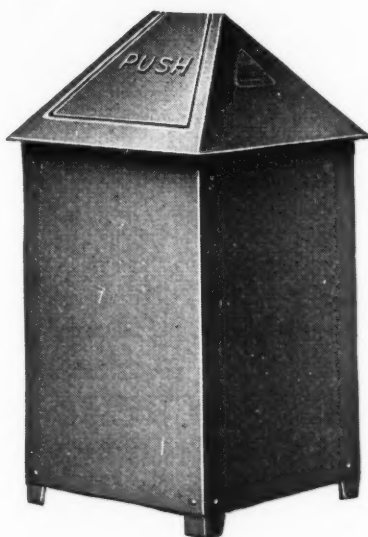
River Forest, Ill.

(Two miles west of Chicago city limits)

Manufacturers of Weather Strip Specialties and Shade Adjusters

Here-

is the Solar
Waste
Receptacle



Here

is where it
should be used
in YOUR school

Corridors
Classrooms
Offices
Lavatories
Lobbies
Laboratories
Playgrounds
Manual Training
Cafeteria
Domestic Science
Gymnasium
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and Here

are the
Reasons

It is sanitary
It encourages cleanliness
It is durable
It is easily cleaned
It is self-closing
It saves money

Send plans of your playground and school for an estimate of the cost of installing the Solar System. No obligation.

Solar - Sturges Mfg. Co.
Melrose Park, Illinois

TEACHERS AND ADMINISTRATION

♦ Red Lodge, Mont. The school board has adopted a resolution directed against teachers who smoke. In the future, the board will give preference in employment to teachers who do not smoke. As originally proposed, the policy was intended to apply to women teachers, but the board has decided to make it apply with equal force to teachers of either sex.

♦ School Dist. No. 2, of Billings, Mont., has also passed a rule, to the effect that any woman teacher who smokes will be subject to dismissal. The rule applies to smoking either in public or in private.

♦ Clinton, Ill. The school board has ruled that, with the close of the school year 1932, married women teachers will not be employed. All of the married teachers are local residents.

♦ Anderson, Ind. Married women teachers recently won their first fight in the controversy involving the question of a school board's authority to cancel a teacher's permanent contract. The court at Winchester has sustained the demurrer of three Elwood teachers, to the school board's plea to abate the complaint. The ruling compels the school board to plead to the complaint. The local suit was in the form of a test case, which will probably go to the supreme court.

♦ New York, N. Y. Under an amendment to the by-laws of the board of education, licenses held by supervisors of teachers are annulled upon resignation from the school system, unless the resignation is withdrawn within one year by permission of the superintendent of schools.

The new reinstatement rule provides that, while a person continues in the employ of the board of education, all permanent licenses which were issued to him, and all licenses under which he received any permanent appointment, will continue to be valid. Where such a person resigns, each and every license held by him at the time of his resignation ceases to be valid at the expiration of one year, unless after his resignation he is reemployed on the basis of an application for reemployment filed within one year after the resignation became effective.

♦ Detroit, Mich. The school board, by a vote of 5 to 1, has adopted an amendment, providing for the automatic retirement of teachers when they reach the age of 70. As approved, the rule affects school principals, assistants, supervisors, heads of departments, and classroom teachers.

♦ Cleveland, Ohio. Married women teachers have been victorious in their fight to be retained on the school faculty. Following a long discussion, the school board voted to approve the appointment list of married teachers.

♦ Oneida, N. Y. The school board has adopted a new policy governing married women teachers. The board has ruled that, until further notice, no married women teachers may be appointed to a regular position in the schools. Married women at present employed will not be dismissed, but will be ineligible for permanent appointment. Women teachers who marry while employed in their probationary term will not be retained beyond the school year during which or prior to which they have been married. The action was taken to help the unemployment situation.

♦ New London, Conn. The school board has adopted a report of the special committee, providing that teachers employed under the new contracts must automatically resign upon marriage. Married teachers now on the staff are not affected by the rule.

♦ Warren, Ohio. The school board has reaffirmed its policy regarding married women teachers. No new married teachers have been appointed. Teachers who have married within the term of their contracts were not reappointed. It was pointed out that the list of married teachers is growing smaller and that the new school year will see still fewer on the staff.

♦ Wooster, Ohio. The school board has adopted a policy which is against the employment of married women teachers. Seven teachers were not considered for reelection and their places were filled by single teachers.

♦ Mr. A. S. Martin, superintendent of schools, Haddonfield, N. J., recently gave a talk to the

high-school teachers and elementary teachers, in which he called attention to the relation of the teacher and pupil. He emphasized that poor progress and failure in schoolwork may be due to poor home conditions, and mentioned the present period of depression and the distress which has come to many homes as a result of it. He urged professional improvement on the part of the teachers, insisting that teaching is a full-time job and that intensive study is necessary for those who would follow the profession. He urged a salary schedule for teachers, based upon the preparation of the teacher and successful experience.

♦ Miss Belle Holden, who is retiring as principal of the South School, at Kent, Ohio, after 50 years of service, was given a testimonial dinner on June 2. A feature of the banquet program was the presentation of \$50 in gold and 50 roses to the veteran teacher. The school board presented Miss Holden with a silver filigree console set. Forty-eight guests were present, including the teachers and the members of the school board. Miss Holden began as a teacher in 1881. In September, 1882, she entered the service of the Kent schools. All but four months were spent in the South School.

♦ Little Falls, N. Y. Approximately 40 per cent of the teaching staff will attend summer school this year.

♦ Columbus, Ohio. A saving of \$116,000 has been effected by the school board through a readjustment of the operating schedule for the year 1931-32. All present teachers were reemployed at the prevailing salaries.

♦ Rockford, Ill. The school board has proposed an extensive reassignment of principals throughout the city schools, with a saving of thousands of dollars to the taxpayers. The new economy program provides for ten grade principals in place of the present twelve. Each of the principals will be placed in charge of at least two schools.

♦ The school board of Belleville, Ill., reappointed all teachers without change of salaries.

THE GREEN BAY VOCATIONAL SCHOOL

(See Cuts on Pages 53 and 54)

The development of the full-time and part-time programs of vocational education and the growth of various exploratory and prevocational courses in Wisconsin cities have led to the planning and construction of an entirely new type of school building. These buildings, varying in size from the huge Milwaukee Vocational School which houses some ten thousand children, to the tiny Waukesha Vocational School with an enrollment of less than 150, are distinguished for functional planning, permanent construction, and rather complete equipment. Invariably, they are centrally located upon rather limited sites; externally they convey the idea of the educational activities which they house; internally they are extremely compact in plan and, except for the auditoriums and entrance halls, are finished like industrial plants; shops and workrooms predominate strongly over classrooms; and altogether there is a businesslike absence of frills that is inspiring.

As one of the larger vocational schools in Wisconsin, the new Green Bay Vocational School, is typical of a building planned to take care of all the part-time and full-time vocational program of a city of 40,000 as well as the night-school work, and certain social-center activities. The building has a rated day-pupil capacity of 750 and occupies an accessible corner near the population center of the city. The structure is three stories high and has a basement extending under the rear and one side only. The first floor contains the shops which require heavy machinery; the second floor provides for the quiet shops, laboratories, library, and offices; the third floor accommodates various commercial rooms, home-economics rooms, and classrooms.

In the basement, the only large room is the swimming pool, which is planned for community use. The walls of the natatorium are wainscoted with a glazed brick of a warm buff color. The cap of the wainscot is formed by a row of tile inserts depicting various forms of sea life. The pool itself is of standard dimensions 20 by 60 ft. in size, and is lined with a white ceramic tile with the swimming lines, distance, and depth marks in black ceramic tile. Separate locker and shower rooms for boys and girls serving both the pool and gymnasium are located immediately adjacent to the natatorium.

The auditorium-gymnasium, which has its play floor on the level of the first floor is equipped with permanent bleachers for 400. Seats which are stored under the stage when not in use, may be set up to care for 400 additional persons. The walls of the auditorium-gymna-

sium are wainscoted to a height of 15 ft. with a buff-color, glazed brick. The playing court of the gymnasium is wood.

The cafeteria occupies the space above the gymnasium. It has a wainscot of a varicolored tapestry brick, and will accommodate 250 persons at one sitting. It is located immediately adjacent to the home-economics room and is served from the large kitchen in this department.

The building is Collegiate Gothic in design and of fireproof construction throughout. The exterior walls are faced with a vitreous brick in various shades of tan and brown. The stone trim is Indiana limestone.

The floor construction is of reinforced concrete with a surface of terrazzo in the corridors. Cement was used for the floor surface in the heavy-duty shops, such as the automotive, sheet-metal, and machine shops. The carpenter shop, science rooms, gymnasium, and other rooms of similar character have wood floors. The floor of the natatorium is a carborundum-surfaced ceramic tile. All other rooms have linoleum floors.

The building is heated with steam, and the classrooms are fitted with unit ventilators. Plumbing and sanitary equipment is of the heavy-duty school type. Electric power and service is complete.

The cost was as follows:

Site	\$ 14,248.64
Superintendence	17,246.01
General construction	167,809.71
Heating and ventilation	38,590.00
Plumbing	17,086.50
Electrical work	12,868.00
Linoleum	2,729.00
Rubberstone	882.00
Weatherstripping	1,861.00
Hardware	2,094.00
Sidewalk	1,083.30
Lockers	1,580.98
Window shades	622.81
Stage equipment	1,287.30
Miscellaneous	468.67
Equipment	25,743.56
Total, exclusive of the site	292,932.84
Cost, on cubic feet basis	24 cents

N.E.A. Standard

Instruction	
Not less than 50 per cent.	64 per cent
Administration	
Not less than 16 per cent.	9.5 per cent
Corridor	
Not more than 20 per cent.	12.7 per cent
Wall, floors, and accessories	
Not more than 14 per cent.	13.8 per cent

THE BOBO HIGH SCHOOL, CLARKSDALE, MISSISSIPPI

(Concluded from Page 56)

The building is heated from the central heating plant, which has been designed to heat four buildings of the group. This plant uses natural

gas for fuel. The Louisiana gas fields are so close to the city of Clarksdale that it has been found cheaper than coal, even without taking into consideration the fact that the gas saves the employment of a full-time fireman. The power plant has a second story which is used for school-society gatherings, and particularly for band rehearsals.

The Clarksdale central school plant is a fine illustration of the outstanding results which may be achieved by consistent application of correct principles of administration during a long period of years.

The city of Clarksdale has enjoyed for many years the services of an unusual board of education, and of an exceptionally efficient superintendent of schools. It is the policy of the community that the board of education shall represent the best forward-looking type of citizenship and that politics shall not enter into the selection of members of the board or into the conduct of the school system. The president of the board of education, Mr. G. F. Maynard, has served on the board for 26 years; Mr. E. P. Peacock, a member, has served 18½ years; Dr. T. M. Dye has been a member for 16½ years; Mr. L. B. P. Jenkins has held his office for 6 years, and Mrs. Ione Brewer, the junior member, has served 2½ years. Mr. H. B. Heidelberg, who developed the present school-building program, has been superintendent for the past 26 years.

FINANCE AND TAXATION

♦ Chicago, Ill. A firm of public accountants has recently completed a survey and audit of the school finances. As a result of the findings of the auditors, it has been shown that the operating expenses of the board of education, totaling over \$60,000,000, may be reduced by more than \$2,000,000 without impairing the efficiency of the public schools. The largest single item recommended for elimination was an annual school appropriation of approximately \$1,000,000 for automatic increases in salaries and promotions.

♦ Youngstown, Ohio. The school board has taken steps to effect a saving of \$17,000 through salary cuts and reorganization. Only five persons were reemployed as supervisors, and the others working in the department have been reemployed as teachers.

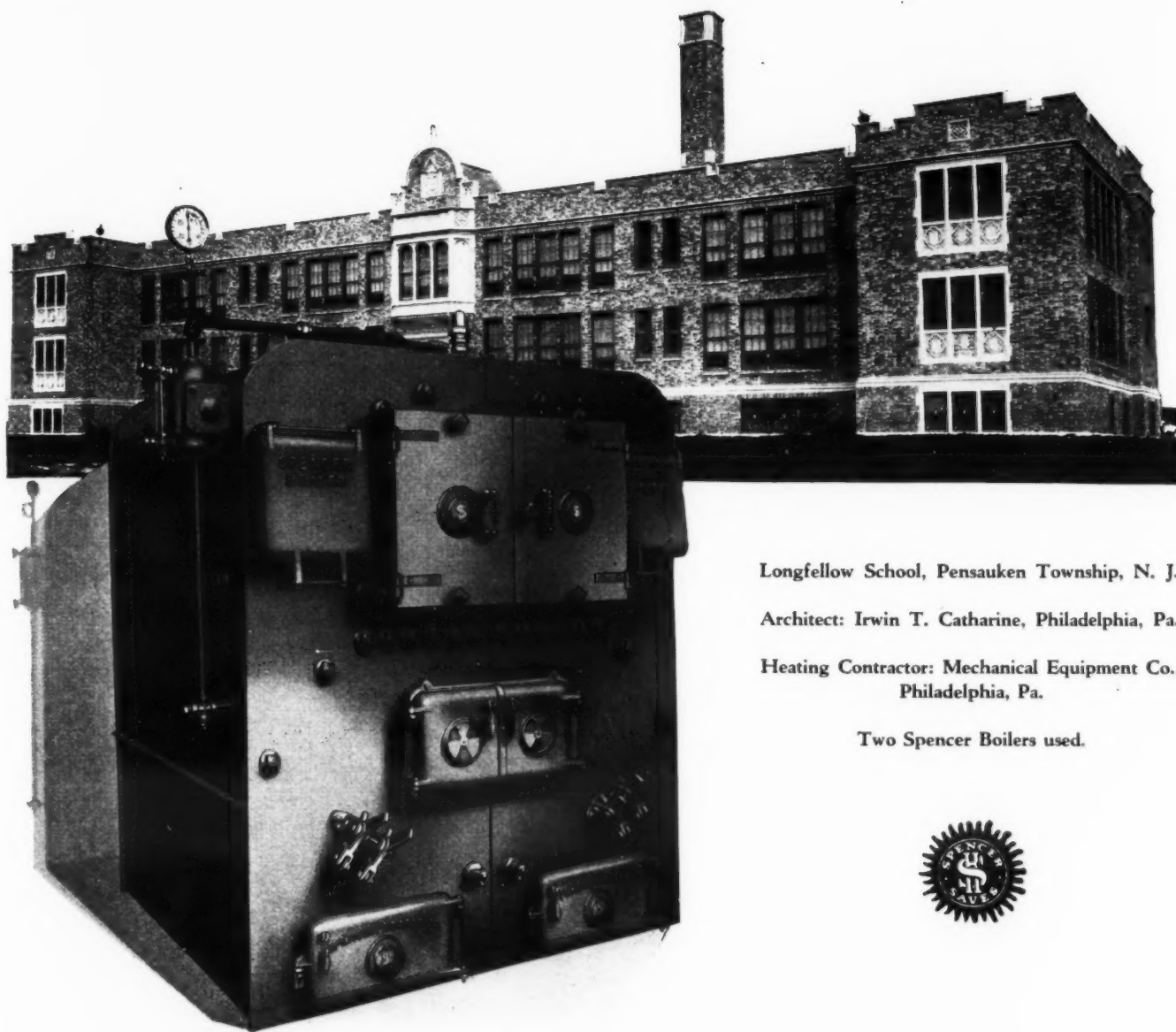
♦ The Illinois House, by a vote of 110 to 11, recently passed the Waller bill, increasing the common-school fund from \$10,000,000 to \$12,000,000. The bill was passed over the objections of administrative leaders who contended that a higher common-school distributive fund would mean higher taxes.

♦ Milwaukee, Wis. The school board has adopted a budget of \$7,790,565 for the school year 1931-32, which represents an increase of \$261,798 over 1930. The largest items in the budget were \$6,478,285 for instruction expenses, and \$838,069 for plant operation expenses.



THE LIBRARY (LEFT) AND THE LITTLE THEATER (RIGHT) OF THE BOBO HIGH SCHOOL, CLARKSDALE, MISSISSIPPI, ARE COMPLETELY EQUIPPED WITH MODERN FURNITURE

Save School Labor Cost With SPENCER AUTOMATIC HEAT



Longfellow School, Pensauken Township, N. J.

Architect: Irwin T. Catharine, Philadelphia, Pa.

Heating Contractor: Mechanical Equipment Co.,
Philadelphia, Pa.

Two Spencer Boilers used.



In Spencer-heated schools the janitor is able to devote practically all of his time to other important duties, often saving the expense of an extra man. Spencer Boilers are fired only once a day, at any convenient time. This economy is in addition to the saving obtained through burning low cost No. 1 Buckwheat Anthracite. The Spencer Gravity Stoker Boiler gives clean, uniform, automatic heat at the lowest cost. Write for an estimate on heating your school building with Spencer Automatic Heat.

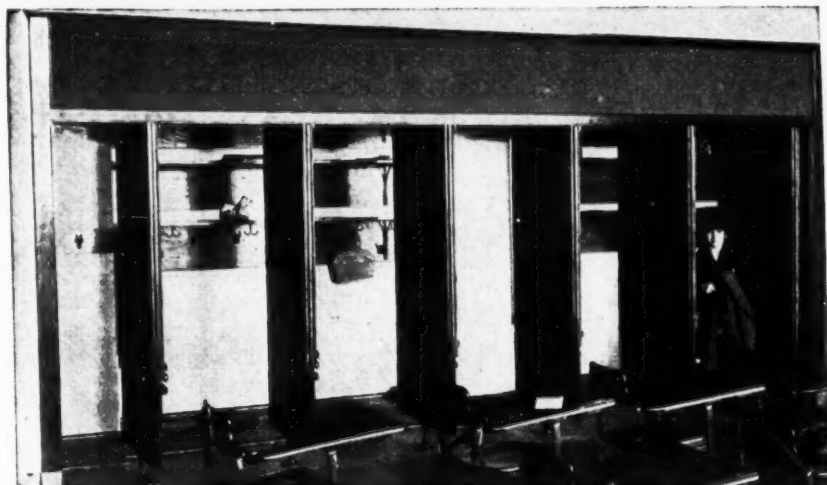
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WILLIAMSPORT, PENNSYLVANIA

Spencer Heater Company of Canada, Ltd., Toronto, Ontario

SPENCER
Magazine Feed
HEATERS
for steam, vapor or hot water

When Schooldays end . . .



Your Building Problems begin!

And what a job it is to remodel or build a school! A thousand and one things need your attention . . . and each one seems most important. Certainly none of the problems concerned with buildings are more important than provision for wrap storage . . . ventilation . . . conservation of floor space . . . and more blackboards.

The Miller wardrobe is the answer to all these problems rolled into one. The Miller wardrobe installed

in the modern schoolroom proves a convenient and safe method of storing children's wraps and at the same time insures them against petty pilfering. In this wardrobe wraps are ventilated by an ingenious and simple ventilating principle. And when the wardrobe is closed, its doors present a continuous expanse of blackboard space.

Investigate the Miller at once. It is well worth your closest consideration. Write for our FREE catalog. Other information given on request.

K - M Supply Co.

119 - 123 West 8th Street

Kansas City, Mo.

MISSOURI REFORMS ITS SCHOOL LAWS

(Concluded from Page 39)

and the former \$50 per teacher if paid a salary of less than \$1,000, and \$100 per teacher if paid a salary of \$1,000 or more.

8. It provides that when the funds available for apportionment will permit the minimum guarantee to districts qualifying for equalization quotas shall be \$900 per elementary teaching unit and \$1,200 per high-school teaching unit, and that the attendance apportionment to other districts shall then be at the rate of 2.9 cents a day. The \$900 guarantee is conditional on the employment of a teacher holding a state certificate. For county certificates, the guarantee is: first grade, \$850; second grade, \$825; third grade, \$800.

9. It guarantees to each district entitled to equalization aid an additional amount for transportation, not to exceed \$3 per month for each pupil transported a distance of two miles or more.

10. It provides for the payment of high-school tuition for pupils residing in districts where no high school is maintained, \$50 toward each pupil's tuition to be paid by the state and the remainder, if any, by the district in which the pupil resides.

11. It extends the provisions with regard to the payment of tuition and transportation to schools supported wholly or in part by state funds. This applies to tuition and transportation for nonresident students in the training school maintained in connection with the teachers' colleges and the university.

12. It changes the plan of apportioning the county foreign-insurance tax fund so that all the money will go to school districts.

13. It guarantees to newly formed consolidated districts \$1,000 for each school building

abandoned as a result of the consolidation.

14. It makes a provision for the closing of schools having an average daily attendance of fewer than 15, and for the transportation of the pupils to other schools, if the district requires special state aid in order to maintain an eight-months' school, and if, in the judgment of the state superintendent of schools, transportation is feasible and desirable.

Taxable Income	Rate
Not more than \$1,000	1 per cent
More than \$1,000 and not more than \$2,000	1½ per cent less \$ 5
More than \$2,000 and not more than \$3,000	2 per cent less 15
More than \$3,000 and not more than \$5,000	2½ per cent less 30
More than \$5,000 and not more than \$7,000	3 per cent less 55
More than \$7,000 and not more than \$9,000	3½ per cent less 90
More than \$9,000	4 per cent less 135

15. It prohibits districts receiving equalization aid from levying a tax of more than 20 cents without a vote of the taxpayers of the district.

16. It permits two or more districts to combine temporarily for school purposes, if the school boards concerned approve the combination.

17. It provides for the transfer of pupils from one district to another when such transfer would make a school building more accessible to the pupils transferred.

18. It gives preference to no class of schools in the apportionment of state school monies. If there is a shortage of funds, the quotas calculated for all districts will be prorated on a percentage basis.

19. It repeals all acts and parts inconsistent with the provisions of the new act.

20. It provides that the first apportionment under the new plan shall be for the school year 1932-33, i.e., in August, 1932.

21. The recent legislation provides an amendment to the income-tax law already on the

statute books of the state. The exemptions and deductions allowed by the old law are not changed. The law provides a new schedule of rates, however, and is a graduated income-tax law rather than a flat one. The rates apply to taxable incomes. Taxable incomes are actual incomes less the exemptions and deductions allowed by the law. For individuals, the principal exemptions and deductions are as follows:

(1) for a single person, \$1,000; (2) for a married person, \$2,000 plus \$200 for each dependent person under 18 years of age, except the wife.

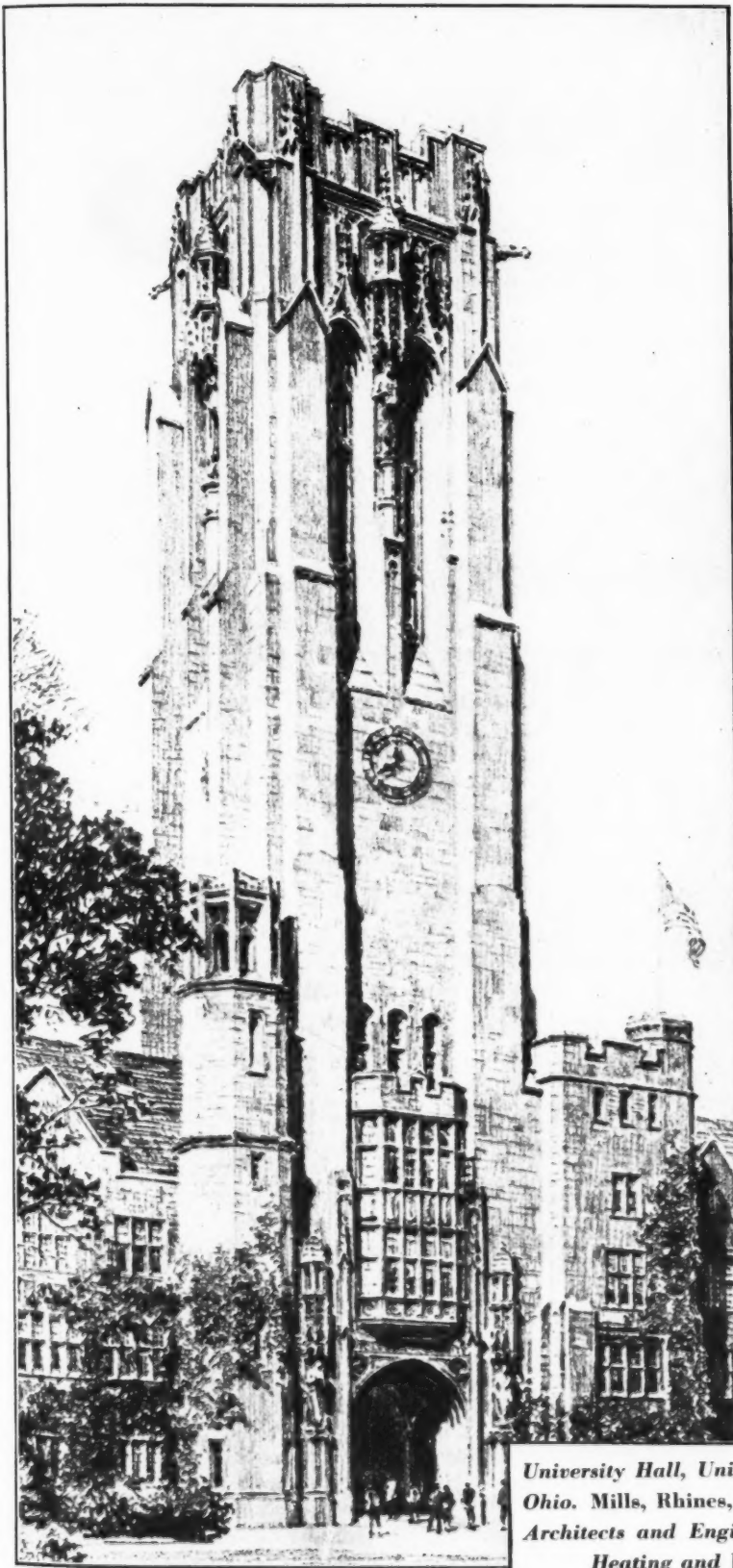
22. The new tax rate for corporations is 2 per cent of the taxable income.

23. The new rates for individuals are as follows:

24. Since there was some doubt in the minds of some of the members of the general assembly as to the constitutionality of a graduated income tax in Missouri, there was inserted in the new law the provision that, if the graduated rates should be declared unconstitutional by the supreme court, the rate on all incomes of individuals should be 2 per cent, the same as on the incomes of corporations.

25. It is estimated that the new rates will add to the yield of the state income tax somewhere between \$5,000,000 and \$6,000,000 annually, to begin with. Some competent authorities think that with improved methods of collection which the law provides, the additional annual income provided will reach \$10,000,000.

MERELY TO PROVIDE FRESH AIR IS NOT ENOUGH . . .



*University Hall, University of the City of Toledo,
Ohio. Mills, Rhines, Bellman & Nordhoff, Toledo,
Architects and Engineers; N. S. Larsen, Toledo,
Heating and Ventilating Contractors.*

IT SHOULD BE Clean AIR . . .

"WHEN we consider the fact that our college students are of a highly selected group, it is amazing to find that at least half of them are below reasonable standards of physical fitness, and the condition of fully a third calls for immediate care." This surprising statement from an eminent medical authority appeared recently in a leading magazine. In the specific study of a representative group of students, this same physician found that 84% of them were in need of expert nose and throat examinations. Many suffered from over-fatigue.

What powerful emphasis upon the need of an abundance of pure air. Not merely fresh air! Fresh air is not *pure* air until it has been thoroughly cleansed of the dust, dirt and bacteria that, everywhere, are in the air. About 10,000 of these danger-laden particles are breathed with every cubic foot of air! No wonder college students, in their crowded rooms, suffer from respiratory defects and over-fatigue.

The University of Toledo, like many other educational institutions throughout the country, determined to check this waste of youth and vitality. It has protected health and efficiency of students by installing American Air Filters, which supply its buildings with dust-free, germ-free air. In addition to improved health conditions, notable savings are effected in cleaning, redecorating and heating costs.

Our staff of air-cleaning engineers will tell you, without obligation, what polluted air is costing your students and your school. Write us for figures that show the improvement in health conditions and efficiency, as well as the savings in upkeep effected by clean air in other schools. AMERICAN AIR FILTER COMPANY, *Incorporated*,

General Offices, 108 Central Ave., Louisville, Kentucky.
Factories, Louisville, Ky.

AMERICAN AIR FILTERS



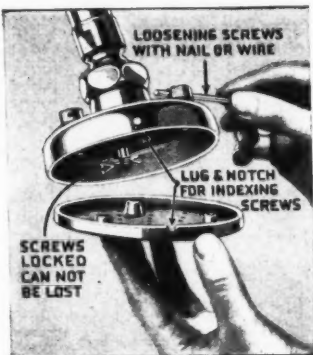
NIEDECKEN SHOWERS

TRADE MARK REG. U. S. PAT. OFFICE

Shower stalls are leak-proof because walls of stall are of continuous sheet of No. 10 gauge copper bearing steel welded with the riser to the bottom. Comes complete with special Niedecken Shower, Duck Curtain and Drain Outlet Fitting, in three space saving sizes special for schools. Install Niedecken Showers for most advanced features and greater economy. More details on request. Write Department A.S.B.J.

EASY-CLEAN SHOWER HEAD

As illustration shows: shower face is completely removed by simply loosening 3 screws; and is replaced as easily, a set of notches guiding for correct placement and alignment as when originally assembled. Shower Head thus can be cleaned completely of sediment. Complete details on request. Write Department S.B.



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MANUFACTURERS SINCE 1855.
MILWAUKEE, U. S. A.

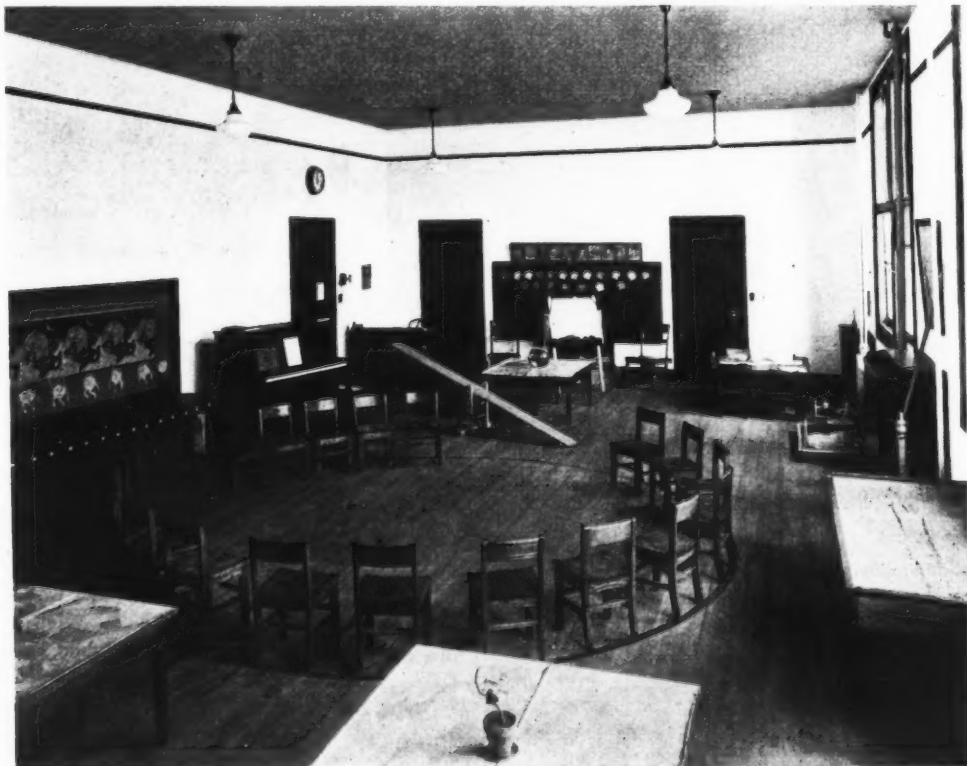
THE CONSOLIDATED SCHOOL AT ITS BEST

(Concluded from Page 52)

tains are complete in every detail, simplifying the usual equipment so that a high-school boy may act as scene shifter. An assembly-hall radio has been installed on the stage. It can also be used to play phonograph records. Provision has been made for the showing of motion pictures. In fact, the auditorium is complete, dignified, and inspiring in every detail, and is a credit to the district and to the donor.

Among the special features in the building is the kindergarten. This large, well-lighted room, designated a "pregrade room" on the plan, has a large storeroom for supplies, an ample coat-room and toilet, a large chest for building blocks, and individual lockers where each child may keep his own work.

Another feature is the cafeteria, located on the ground floor near the gymnasium, and is used for noon lunches and for serving refreshments after parties. It is furnished with small decorated tables, and is an attractive room



KINDERGARTEN, CENTRAL RURAL SCHOOL, WATERVILLE, NEW YORK
Gordon Wright, Architect, Syracuse, New York

THE FUN-FUL LINE PLAYGROUND EQUIPMENT



SAFETY. That is the pre-eminent quality of FUN-FUL Playground Equipment, built in by the rigid specifications formulated in Hill-Standard's thirty-one years of leadership. School Yards, Parks, Playgrounds, and the foremost Recreation Centers of America, bear witness to this.

1931 sees the FUN-FUL line more varied, more attractive, with the newest features and widest range for your selection. All backed as heretofore with our most liberal guarantee. Our experience is at your command.

Complete Catalog No. 11 Sent On Request.

ADDRESS DIVISION S

HILL-STANDARD Co.
EST. 1900
Anderson, Indiana, U.S.A.

Largest Manufacturer of Playground, Water Sports, and Flood Lighting Equipment

where 200 children can partake of a hot lunch and spend the noon hour under supervision.

The building has been visited by many educators, who have pronounced it well laid out and equipped to give the school children of the city the fullest opportunity for a well-rounded education. The building was completed in the fall of 1930, at a cost of \$203,755.70, including equipment and architects' fees, or 29.4 cents per cubic foot, based on a cubage of 692,000 cubic feet.

PATRONIZING HOME INDUSTRY

(Continued from Page 44)

a nickle to save a penny. The bargain hunter who will spend a half day and travel 25 miles to get a \$2.50 article for \$1.98 is always amusing to the thrifty buyer.

Home-Industry Patronage

The time is past when local merchants, or local doctors, or local attorneys, or local music teachers, or local "anybody elses" can lay claim to patronage on a basis or plea of "home industry" or "home enterprise" or "home talent" alone. Surely, they are entitled to enter competition and to a fair hearing, but if they can't meet legitimate competition — quality, delivery, service, and price considered — they must be content to see patronage go elsewhere. Incidentally, it should be remarked that any business is entitled to a fair margin of profit. No business concern can do business without profit, and no business concern should be expected to do so. By the same token, granting that reasonably efficient business standards prevail, no business concern should be expected to do business on such a narrow margin as to compel a nigardly or unfair treatment of its employees either as to paying reasonable wages or as to providing satisfactory working conditions.

Seven Cardinal Points

To summarize, in defining their policy governing patronage of home industry, any school

(Concluded on Page 130)

The Old
Walnut Hills
High School
Cincinnati, Ohio

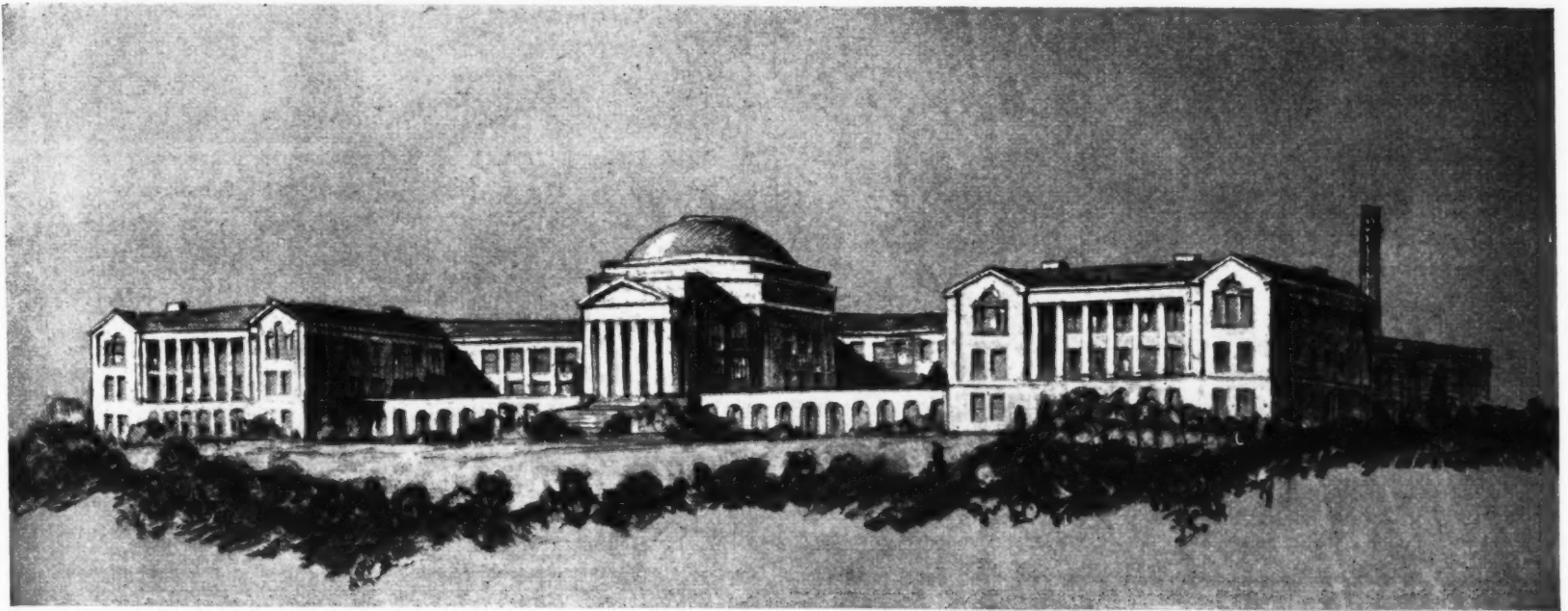
Built in
1908



23 Years of

Dependable Service rendered by Powers
Temperature Control in this school was
one of the reasons why Powers Regulation

was selected for the New WALNUT HILLS SCHOOL, Cincinnati.



Architects:
Garber & Woodward

Consulting Engineers:
William E. Bodenstein

Heating Contractors:
The John J. Vogelpohl Co.

After 23 years of dependable regulation in the old Walnut Hills High School, the Powers System of Temperature Control is still giving excellent service and will continue to do so for many more years.

Because of this and many similar records of long life and dependable service, Powers Control is being installed in the new school shown above, which is one of the largest in the State of Ohio.

While the first cost of Powers Control is often higher; it costs much less in the end, because:

-:1:- It often gives 15 to 20 years of Accurate and

Dependable control without repairs of any kind.

-:2:- Greater Steam Economy due to the fact that thermostats do not get out of adjustment and permit overheating.

-:3:- Graduated Control, because of its greater accuracy, provides maximum comfort for occupants of rooms.

-:4:- A minimum of Service Calls and the trouble and annoyance connected with them.

THE POWERS REGULATOR COMPANY

40 Years of Specialization in Temperature Control

CHICAGO: 2721 Greenview Avenue

NEW YORK CITY: 231 East 46th Street

Offices in 41 Other Cities

The Canadian Powers Regulator Company, Toronto, Ontario



Powers Thermostats
Are Better

Because—they need no annual adjustments or overhauling and often give 15 to 20 years of accurate control without repairs of any kind.

POWERS

New Kewaunee Locks

**Do Away with
Pass Key Troubles
for Student Lockers,
Drawers, Cupboards**

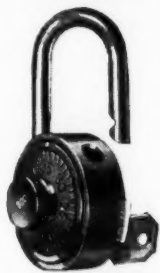
The day of Pass Keys and all their attending troubles is over. No more need you bother about lost keys, misplaced keys, and keys left at home. Now, with Kewaunee Combination Locks, students need no keys. They simply work the combination of their locks and the drawer, cupboard or locker door opens. The instructor is provided with a master key with which to unlock the combination locks. Thus, for the first time, you have all the advantages of a master keying system and none of the disadvantages of the pass key locks.

Write for Lock Folder

We have prepared a very attractive folder that pictures and fully explains all Kewaunee Master Keyed Combination Locks. Write for it today. See how the Master Key System works. All locks automatically lock when closed. The dial cannot move when lock is open. All locks are furnished with or without Master Key or Click Device for opening in dark. Send for folder today.



Combination
Lock
No. K-45A
(Front
View)



Combination
Lock
No. K-45



Combination
Lock
No. K-46



Combination
Lock
No. K-45A
(Rear
View)

Kewaunee Mfg. Co.
LABORATORY FURNITURE EXPERTS

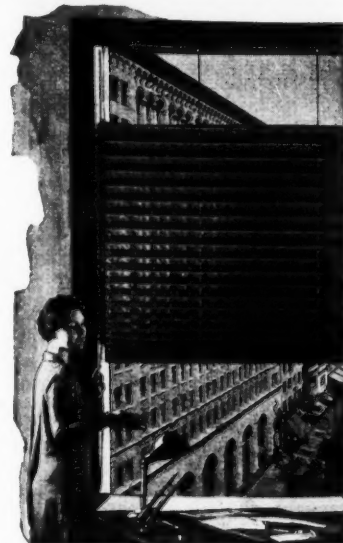
C. G. CAMPBELL, PRES. AND GEN. MGR.

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The Ideal Shades for School Windows give light and ventilation without glare

Athey Shades are ideal for Schools and Colleges.

They are not wooden slats, and have no rollers, springs, catches or latches. They do not have to be jerked for adjustment. They may be lowered from the top, allowing a flood of soft light to reach the back of the room. Besides being practical, they are the most beautiful and attractive shades ever devised for modern schools, colleges, offices, etc.



The teacher or students never touch the shade with the hands. Shade operates noiselessly and smoothly.

Send for catalog now.

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Accordion Pleated
Window Shades
and Cloth-Lined Metal
Weatherstrips

ATHEY COMPANY
Representatives in Principal Cities

6073 W. 65th St., CHICAGO
In Canada—Cresswell-Pomeroy, Reg'd,
Montreal and Toronto

(Concluded from Page 128)

board and superintendent will do well to keep in mind the following points:

1. Save money for all the taxpayers of the district rather than make money for a few. A consistent practice of this principle is the surest way to keep taxes at a minimum.

2. Purchases of such school equipment, furniture, and supplies as are not regularly handled by the local trade should be made directly from the regularly organized school-supply distributors and manufacturers, rather than indirectly from some local temporary representative who must go to the same source of supply and sell again at a premium. School boards can buy these items direct at as low prices as their retail dealers.

3. When any commodity is to be bought in sufficient quantity to warrant a direct wholesale purchase, the wholesale market and not the retail market should be made the field of competition. No local merchant can conscientiously ask a board of education to make him a present of public money. A school district is a business corporation and not an institution of charity.

4. School boards, like individuals, should be willing to pay for the service element of any purchase. Local business enterprises frequently have service facilities which, because they are a regular part of their organization, school boards can buy more cheaply than they can set up for themselves.

5. Incidental or recurring needs in the conventional and staple fields should be purchased from the legitimate retail trade and equitably distributed. No reduction from current and regular prices should be expected.

6. Being free in the choice of source of supply and having confidence in the honesty and integrity of their purchasing agent or department, a board of education should not expect bargain prices on any and every item or commodity,

unless purchased in sufficient quantities to offset the time spent in bargain building. It takes time to go bargain hunting, and time is money. To be a real saving, the difference in price must more than pay for the time spent in effecting this difference.

7. Assuming reasonably efficient business standards of organization and administration on the part of the dealers or concerns with whom it does business, a board of education should grant them their right to a legitimate profit.

LIABILITY OF A SCHOOL DISTRICT ON A CONTRACTOR'S BOND

(Concluded from Page 58)

the plaintiff contended, was the direct cause of his loss, and for which the defendant should be held liable in the amount of the loss.

The defendant contended that the payment was made to enable the contractor to pay his bills, and that it was not liable for the unexpected diversion of the fund to another creditor of the contractor. Further, the defendant contended that, the withholding of the 15 per cent of the contract price was optional with it in any event. The trial court, however, found against these contentions and rendered judgment in favor of the plaintiff for \$39,819.90. The defendant appealed, and the higher court in reviewing the record and in affirming the judgment reasoned, in part, as follows:

The Language of the Court

"It is well settled that a stipulation in a building contract that a percentage of the price shall be retained until final completion and acceptance of the work, is as much for the benefit of the surety as for the protection of the owner, and a failure to comply releases the former insofar as the rights of the latter are concerned.

"Did the peculiar provisions in the contract and bond . . . have the effect of relieving the

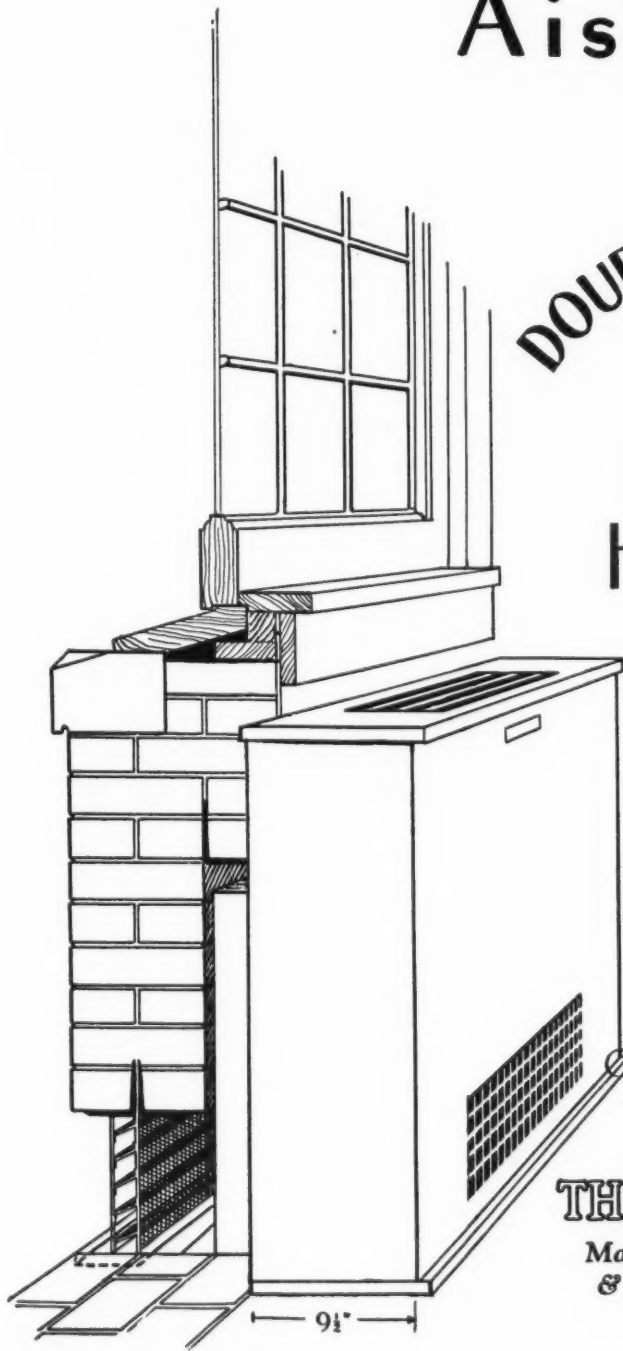
school board from the duty of withholding 15 per cent . . . and permit it to pay the same before the completion of the work and without exacting of the contractor receipts or affidavits showing the payment of all bills for labor and material? . . . Article 5 states specifically how and when the 'final payment' shall become due and be made, . . . ; that, before issuance of final certificate the contractor shall submit evidence satisfactory to the architect that all payrolls, material bills, and other indebtedness connected with the work have been paid. . . .

"This being a public building, there was no legal possibility of attaching a lien thereto. . . . It is probable that the inability to fix a lien against the building caused the school board to be less solicitous about claims for labor and materials than it otherwise would have been. Had this been a private transaction, it is reasonably certain that no such payment would have been made, without exacting evidence of satisfaction by the contractor of his indebtedness.

"We can see no justification on the part of the school board in disregarding the provision for retaining a percentage of the price, which was equally for the protection of the surety; but, on the other hand, it was called upon to respect the rights of the surety, and to not do anything which was reasonably calculated to increase its obligation or risk under the bond. What the board did in this instance has brought about that result, for the money dedicated to the payment of the claims has been diverted to other purposes, the surety has been compelled to pay the creditors, and the contractor is bankrupt. . . . Affirmed." — Fort Worth Independent School District v. Aetna Casualty & Surety Co., Circuit Court of Appeals, Fifth Circuit, 48 F. (2d) 1.

The above decision is unquestionably in accord with the weight of authority on the subject.

Only 9½ Inches Aisle Projection



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900
SERIES
BUCKEYE
Heatoven

ALL TRAPS
VALVES
AND PIPING
*are contained
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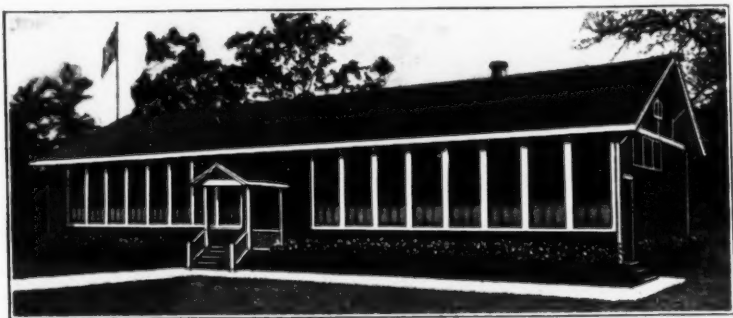
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DOES SCHOOL VENTILATION AID HEALTH?

(Concluded from Page 62)

sively that there was no significant relationship between the records of the different sections for the two semesters. Apparently, therefore, any variations in absence rate between the sections were not due to the conditions in the various sections, as produced by heating or ventilation provisions, but to some other factors.

Measures of the Physical Condition of the Rooms

As mentioned in the foregoing, measurements of temperature at desk and at floor level, and kata-thermometer readings were taken at various points in the rooms. These measurements were recorded on a chart of the room and were paired with the records of absence rates for the section in which they were taken. The coefficients of correlation were computed between the absence records and the physical measurements, using the records of individual sections in indi-

significant relationship between these measurements of physical condition of the air, and the amount of absence due to respiratory illness in the section. Only in the case of the fan-gravity rooms of the Beye school are the coefficients consistently high enough to merit consideration. That for floor-level temperature is .511, which taken by itself might indicate a significant relationship. However, when considered in connection with the other coefficients for this factor, and especially that for the same type of ventilation in both schools combined, it appears that a causal connection between the two measures is unlikely.

Conclusions

1. Under the conditions of the present study there was no significant difference between the percentage of absence due to respiratory illness in rooms operated on an approved type of fan-gravity ventilation, and that in rooms operated on an unsatisfactory type of window-gravity ventilation.

2. The correlations between individual pupil records of absence due to respiratory illness were not very significant in any case. They were in general higher where the pupil was in a different room and under a different system of ventilation for the two semesters.

3. In the window-gravity rooms the middle row had the largest amount of absence due to respiratory illness per pupil; and the rows next to the walls the least amount.

4. In the fan-gravity rooms the least amount of such absence was found in the center row and the row next to the inner wall.

5. The center section of the rooms had a smaller amount of such absence than did either the front or the rear section, in all groups and ventilation types compared.

6. When the rooms are divided into fifteen sections there was found to be no significant correlation between the amount of such absence

in the particular sections in the two semesters.

7. There appeared to be little, if any, significant relationship between the rate of absence due to respiratory illness in any particular section of the individual room, and the physical factors of floor-level temperature, desk-level temperature, and kata-thermometer reading for that section.

SOME ESSENTIALS OF RADIO AND PUBLIC-ADDRESS EQUIPMENT FOR SCHOOLS

(Concluded from Page 48)

eager to coöperate with them in the attainment of these major objectives.

It is apparent that the results outlined are dependent upon a wiring plan that will care for the various services that the system must perform. On this point, also, the leading manufacturers are ready to offer advice. School authorities and architects, therefore, should seek the counsel of the educational departments of reliable manufacturers before planning a new building in which installation of a radio and public-address system is anticipated.

It is essential that the radio and public-address system be regarded strictly as a "tool of learning." It is worth while only if it actually contributes to the learning process by rendering more efficient the administrative and instructional functions of the school. The education of children must be rendered more complete by what they hear over the system, or it is of no value. The child is the center of thought in this as in other matters of school equipment. From this viewpoint the ideas enumerated in this discussion merit attention.

♦ At Benton, Ohio, the board of education elected the following officers: President, MARION KITCHEN; vice-president, FOREST SMITH; Clerk, J. J. JOHNSON; MAX SHAW, HERMAN BROWN, and JOHN UNGER are the other members.

TABLE VII. Coefficients of Correlation Between Absence Rates and Measurements of Physical Conditions, for the Individual Sections of the Rooms

School	Ventilation Type	Correlation Between Criterion and:		
		Kata-Thermometer	Desk-Level Temperature	Floor-Level Temperature
Hatch	W-G	.212	-.174	-.210
	F-G	-.021	-.083	-.083
Beye	W-G	.032	.163	.090
	F-G	.296	.272	.511
Hatch and Beye	W-G	.152	-.035	-.022
	F-G	.088	.088	.141

vidual rooms. These coefficients are presented in Table VII. An examination of this table indicates that in most cases there is obviously no

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TEACHERS' SALARIES

♦ Highland Park, Mich. The school board has proposed a cut of 5 per cent in the salaries of teachers and employees receiving more than \$1,800 a year.

♦ Minneapolis, Minn. The school board has been asked to approve a recommendation of the special committee, providing that the salaries of employees be maintained at their present figures, and that automatic increases be suspended until financial conditions return to normal.

♦ Cranston, R. I. The school board recently refused to approve a wholesale increase of salaries that would have placed an additional burden upon the taxpayers. It was the sentiment of the opponents of the program that advocacy of the increases at this time would prove indiscreet.

♦ East Liverpool, Ohio. Due to a shortage of \$38,000 in school revenues this year, no general increase in teachers' salaries will be permitted. There will be a few adjustments in salary due to changes caused by the rating system.

♦ Detroit, Mich. A 3-per-cent reduction in the salary of school teachers has been approved by the school board following recommendations of Supt. Frank Cody. The reduction in salaries will save \$700,000.

♦ East Cleveland, Ohio. The board of education has canceled all automatic increases for teachers during the next year.

♦ Youngstown, Ohio. The school board has signed contracts with teachers which are so worded that, should the school year be shortened, the teachers will be paid only for the time they work. The action was taken as a safeguard in case the school year must be reduced, and in preference to cutting teachers' salaries.

♦ Cleveland Heights, Ohio. The school teachers will receive their regular automatic increases for the coming year. The contract of each teacher will contain a provision that in case tax collections fail to produce sufficient funds, a small percentage of the annual salary will be withheld.

♦ Akron, Ohio. The board of education has voted to cut two weeks' pay from the salary of each teacher and each employee in the schools, in an effort to make up an estimated shortage of \$500,000 in revenues.

♦ Circleville, Ohio. The school board has reduced the length of the school term from nine and one half to nine months, with a saving of \$3,100.

♦ Niles, Ohio. The school board of Hubbard township has ordered a reduction of 10 per cent in the salaries of all teachers, and has replaced a number of teachers with a saving in salaries. The total saved by the reduction and replacement of teachers will amount to approximately \$11,000.

♦ The Associated School Boards and Trustees of New York state has protested against the existing salary schedules in a statement published in its spring Bulletin. The organization is not advocating reduction of teachers' salaries, but is looking for ways of suspending the annual salary increments provided for in the teachers' salary schedule. The organization holds that the annual increases should be suspended in view of the existing business conditions.

While the program of the association cannot directly affect the salaries of teachers in New York, since their rates are protected by the Downing law, the leaders of the teachers' organizations are watching all such demands. They are prepared to defend the existing schedules, if necessary.

♦ Duluth, Minn. The school board has adopted a plan for obviating a reduction in teachers' salaries during the next year. It is planned to adopt other economies and to obtain the cooperation of teachers and parents so that school affairs will not suffer.

♦ Marion, Ohio. The Marion county board of education has announced that salaries of teachers, officials, and employees of the county schools will be reduced 10 per cent, beginning with the next school year. The reduction was ordered in anticipation of decreased tax revenues.

♦ Chardon, Ohio. The school board has offered contracts to the teachers for the next year, reducing the school period from nine and a half months to nine, and reducing salaries 5 per cent below the scale of last year. The board estimates that a saving of \$2,000 will be made as a result of the new contracts.

♦ Richmond, Ind. The school board has voted to continue the salary schedule now in force for teachers, principals, and supervisors during 1931-

32. In the adoption of the schedule, the board made certain exceptions. The bonuses for travel and summer-school attendance have been suspended for one year, the school year was reduced from nine and one half to nine months, and contracts were signed in such a way that the board reserves the right to reduce teaching staffs where it becomes necessary because of a reduced budget.

♦ Ashland, Ky. In order to reduce the school expenditures for the next school year, the board of education has reduced teachers' salaries, eliminated certain positions in the high school, eliminated sick-leave pay, and reduced salaries of janitors. As a result of its action, the board has reduced the budget by \$44,315.

♦ San Francisco, Calif. Public-school teachers in the city schools have been overpaid to the extent of more than \$2,000,000 during the past 25 years, according to a recent report of Mr. W. S. Owensby, an accountant employed by the board of education. The findings, which were the result of months of work on the part of the accountant, were challenged by the superintendent of schools and the board of education.

It is expected the accountant's report will produce two results. The school board will compel teachers who have been overpaid since 1926, to pay back more than \$470,000. Of this sum, \$350,000 will be withheld from sums due the teachers in back salaries, and the remaining \$120,000 will be deducted from current salaries. A radical reorganization of the school board's accounting system, in line with the decisions of the supreme court and the attorney-general will be started.

♦ Bluffton, Ohio. A saving of \$1,249 in expenditures for teachers' salaries has been effected by the board of education in the employment of teachers. Under a new wage scale, a general reduction of 5 per cent has been made in all salaries in the town and township schools. All teachers were given ten days in which to sign up at the reduced salaries.

♦ Delaware, Ohio. A 5-per-cent reduction in salaries has been given all teachers in the city schools for the coming year. Decreased revenue due to lower real estate appraisals and delinquent taxes was given as the reason for the reduction. A shorter school year has also been adopted by the board.

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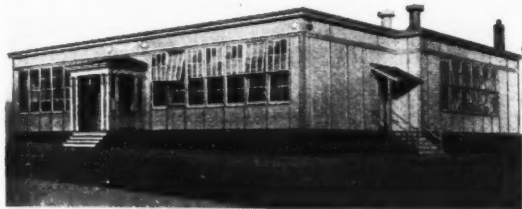
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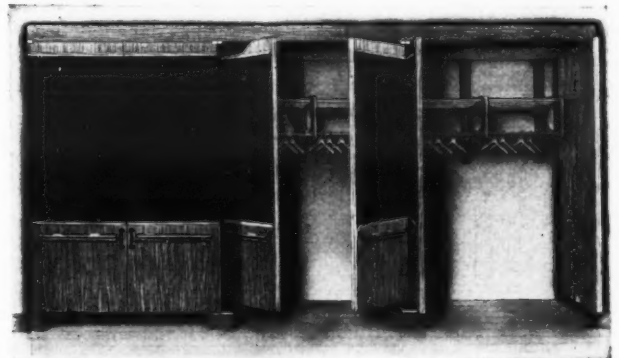
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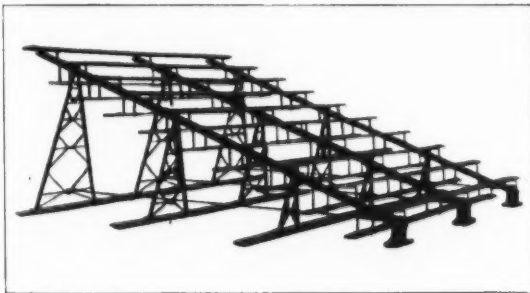
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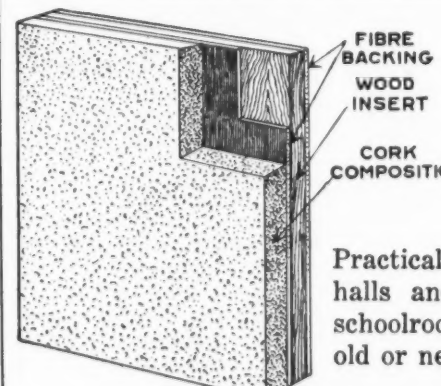
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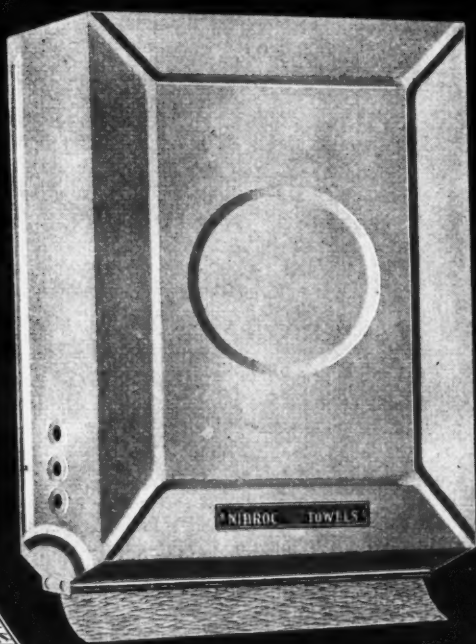
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Keep your
school health
standards high
with

NIBROC TOWELS

THEY encourage boys and girls to wash more often. NIBROCS are highly absorbent. One NIBROC dries the hands thoroughly, leaving them soft and clean. They contain no chemicals to injure the skin, and prevent the spreading of infectious diseases often found on the common towel. NIBROCS are lintless. They are served individually, fresh and clean from a dust-proof, key-locked, steel cabinet which is loaned to customers.

Write now for a generous sample of NIBROCS



FOUNDED 1852

Portland, Maine

Buyers' News

TRADE PRODUCTS

New Porta-Pact Map Roll. The Weber Costello Company, of Chicago Heights, Ill., manufacturers of school apparatus and supplies, has recently placed on the market its new Porta-Pact map roll for use in schools where the available wall space is limited, or where one set of maps must serve more than one room.

The entire set of maps operates on one roller and occupies very little space. The set is light in weight, is neat and attractive in appearance, and may be transferred from one classroom to another. A new patented feature allows the maps automatically to roll back over the top of the roll and eliminates hand turning.

The perfection case which holds the maps permanently together, is rigidly and durably constructed of oak and finished in medium dark-brown oak. Each map is protected from dust and dirt when rolled up by a heavy cloth extension, which wraps entirely around it.

School officials and teachers may obtain complete information and prices upon request.

Announce New "Silent Huntington" Scrubbing Machine. The Huntington Laboratories, Inc., of Huntington, Ind., manufacturers of sanitary supplies, have announced a new, improved floor-polishing and scrubbing machine under the trade name of the "Silent Huntington."

The new machine, which has been designed to overcome the excessive weight, bulkiness, and complexity of earlier types, has few working parts, is neat and compact in appearance, and is substantially built to insure a lifetime of service. It operates smoothly, quickly, and thoroughly, does the work in less time than other types, and is easy to control.

A feature of the machine is the ease with which brushes may be changed quickly, due to the new method of attaching the brushes to the machine. The machine is equipped with two brushes, one for polishing, and one for scrubbing. A lever on the handle of the machine raises or lowers the carriage wheels at will, a switch offers convenient operating control, and a simple adjustment allows the brushes to rotate in either direction.

Complete information and prices may be obtained by any school official, or engineer-custodian, upon request.

New Sturtevant Heating Units. The B. F. Sturtevant Company, of Hyde Park, Boston, Mass., has just issued Catalog 383, illustrating and describing the new Sturtevant Humidifier, and Catalog 384, illustrating and describing the Sturtevant Air Conditioning Unit of the suspended type.

The Humidifier is especially adapted for use in situations where uniform humidity is extremely important.

The Sturtevant Air Conditioning Units are planned for heating and humidifying, or cooling and dehumidifying, and for washing and filtering the air.

They may be adapted to such types of schoolrooms as gymnasiums, shops, and workrooms. The units are heavily galvanized and all inside surfaces are spray-painted to eliminate all tendency toward rusting. They represent the latest improved engineering in the direction of efficiency and economy.

Copies of the catalogs are available for school authorities and architects.

New Miller Dial-Type, Automatic, Keyless Padlock. The J. B. Miller Keyless Lock Company, of Kent, Ohio, has announced a new dial-type, automatic, keyless padlock as an addition to its line of keyless padlocks.

The lock, which is made of brass and rustproof cadmium-plated steel, is similar to the former click padlock, and is very simple in construction. The dial is used like the dial on a safe, and the combination may be operated with the lock in the upright position. The dial locks and the combination is thrown completely off when the shackles are closed. Its simple and positive construction insures dependability and durability, and in addition, gives all the security which can be built into a padlock. Complete information and prices will be sent to any school official upon request.

Micarta, a New Material for Interior Finishes. The Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., has issued a 14-page circular, illustrating and describing the varied uses of Micarta for finishing school interiors.

The pamphlet illustrates a variety of wood finishes, marble finishes, tapestry designs, conventional designs, and black and plain colors. Micarta is available in a number of different designs under each of these general classifications, and is suitable for use in wall paneling, partitions, and desk and table tops.

Complete information and prices will be sent to any school official, or architect, upon request.

Talkies for Schools. Schools have been facing the problem of "talkies," which will possess the quality and the volume comparable to the theater, without the use of complicated and expensive installations.

The new DeVry sound-on-film equipment, which has been placed on the market, appears to meet the problem quite satisfactorily. With this equipment, a regular 35 m.m. film is used. A sound track extending along the pictures on the film eliminates the mass of apparatus formerly required to effect a synchronization between the pictures and the disk records.

With this equipment, it is impossible for pictures or sound to get out of synchronization. It is possible to show pictures large enough and with sufficient sound to be enjoyed by audiences of more than one thousand persons.

The machines are portable and the whole unit weighs less than 75 pounds, so that they may be easily transported from one classroom to another, or set up in a large school hall. The machines are available for use in educational institutions.

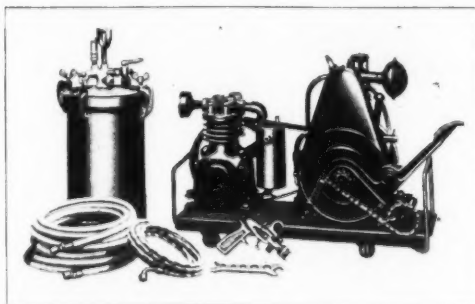
The New Speed Indicator. The Victor Animatograph Company has announced a new speed control for the animatograph which is a complete 16 millimeter talking projector suited to school use. Complete details of the new device can be had by addressing the Victor Animatograph Company, Davenport, Iowa.

DeVilbiss Light-Duty, Gas-Engine Spray Painting Outfit. The DeVilbiss Company, Toledo, Ohio, manufacturers of spray-painting equipment, has announced the marketing of a new, improved, light-duty gas-engine spray-painting outfit for school use.

The outfit, which is known as NH 606, makes possible the efficient and economical spray painting of light or small work at points where electric current is not available. The outfit may be carried by one person, but it is large enough to produce high-quality work at great speed.



THE SILENT HUNTINGTON



DEVILBISS SPRAY-PAINTING OUTFIT

The outfit consists of a spray gun, with adjustable spray head and wrench, air hose and connections, fluid hose and connections, a 2-gal. paint tank, and a 1/2-h.p. gas-engine-driven compressing equipment, mounted on a hand truck. The outfit is rapid, economical, and efficient in use and no special mechanical knowledge is required for its operation.

Complete information and prices may be obtained by any school official upon request.

New Speakman Self-Cleaning Shower Head. The Speakman Company, of Wilmington, Del., manufacturers of Speakman showers and fixtures, has issued its new catalog A. I. A. 29-H-3, illustrating and describing the new Speakman self-cleaning shower heads. The K-3396 any-stream self-cleaning shower head has a 1/2 in. I. P. female inlet and a lock-shield arranged to operate by a key. The K-3397 type head has a sim-



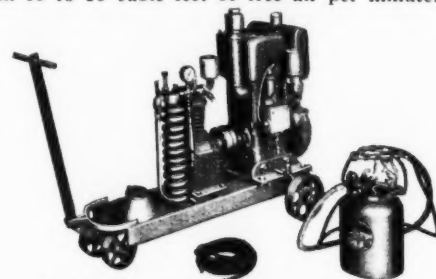
NEW SPEAKMAN SHOWER HEADS

ilar inlet, but is arranged to be operated with a screw driver. The shower heads are designed to be foolproof, easily operated and cleaned, and economical of water consumption. They represent the latest word in shower-head design for schools and institutions.

Complete information and prices may be obtained by any school official upon request.

New Paasche Portable Airpainting Unit. The Paasche Airbrush Company, 1909 Diversey Parkway, Chicago, Ill., manufacturers of airpainting outfits, has issued a circular, describing and illustrating its new 4-h.p. gasoline airpainting unit.

The equipment is always ready for service, is independent of electric current, and has a capacity of from 18 to 20 cubic feet of free air per minute. It is



PAASCHE PORTABLE PAINTING UNIT

provided with an air-cooled feather-valve air-compressor, an automatic unloader, engine and compressor air filters, air tank, oil and water separator, safety valve, gauge and fittings, and is mounted on a three-wheel chassis.

The firm also manufactures a 6-h.p. gasoline engine outfit and a 1 1/2-h.p. gasoline airpainting outfit.

Complete information and prices will be furnished to any school official upon request.

PERSONAL NEWS

Death of Mr. Ryneerson. Mr. W. M. Ryneerson, New York representative of the Carter Blox-on-End Flooring Company, of Kansas City, Mo., for the past fourteen years, died at his home on May 29. Mr. Ryneerson enjoyed a wide acquaintance among the schoolhouse architects and school officials in the New York district.

Open Boston Office. The Armstrong Cork Company, manufacturers of linoleum and cork products, have consolidated their New England offices at 286 Congress Street, Boston, Mass., where a complete staff of sales and service men will be available.

Mr. Cameron Elected. Mr. A. D. Cameron has been elected manager of the Holophane Company, 342 Madison Avenue, New York, N. Y. Mr. Cameron was formerly active in the lighting field as manager of the lighting divisions of the General Electric Company at Schenectady, N. Y. After leaving General Electric he had been vice-president of the Hall Electric Heating Company of Philadelphia.

USEFUL CATALOGS

Teaching Films. The Eastman Teaching Films Company, Inc., Rochester, N. Y., has just issued its first complete catalog of the Eastman classroom films. These films are on 16-millimeter safety stock and have been prepared purely for teaching purposes. The subjects include films in art, English, geography, health, nature study, and science, and represent original units taken under the direction of expert educators especially engaged for the purpose. A copy of the catalog will be sent to any school authority.

Demco Catalog of Library Supplies. The Demco Library Supplies, 114 South Carroll St., Madison, Wis., has issued its new catalog No. 31, illustrating and describing the firm's extensive line of library supplies.

The catalog lists book trucks, files and desk trays sets, magazine racks, bulletin boards, catalog cases, charging trays, book and catalog cards, register books, book knives and brushes, bookbinding supplies, pamphlet cases and binders, poster holders, display cases, catalog guides, and gummed labels.

A copy of the catalog will be sent to any school official, or library assistant, upon request.

New Catalog of Durabilt Steel Storage Equipment. The Durabilt Steel Locker Company, of Aurora, Ill., manufacturers of steel storage equipment, has just issued a booklet, entitled *Solving School-Shop Storage Problems*, in which is described the installation and use of a variety of steel storage cabinets for shop use.

The Durabilt steel storage cabinets prevent waste, encourage accurate recording, provide safe storage, and insure the delivery of the right material to the right person. The firm manufactures a varied line of steel equipment, including shelf trays and compartment boxes, tool drawers, blue-print drawers, project and book cabinets, instrument cabinets, tool cabinets, cabinet shells with double doors, and cabinets for a wide variety of shop purposes.

Complete information and prices may be obtained by any school official, or shop instructor, upon request.

Royal School Furniture. An attractive catalog, descriptive of a line of school desks, chairs, and stools, has been issued by the Royal Metal Manufacturing Company, of Chicago. The illustrations concern themselves with the several makes, showing movable desks, tablet-arm chairs, teachers' desks, and a series of junior, intermediate, primary, and kindergarten chairs.

It becomes evident in looking over this array of school seating that the manufacturer has aimed to combine utility with grace of design. The application of mechanical skill finds splendid expression in metal furniture which is to serve the modern classroom.



THE COOLIDGE DAM

The length of the entire structure is 550 feet and its height is over 250 feet.

STRENGTH IS SAFETY!

THE Coolidge Dam on the Gila River, San Carlos, Arizona, is one of the largest in the world. It was dedicated by Calvin Coolidge in March, 1930. » The reservoir is twenty-four miles long with a maximum width of four miles and with a capacity to irrigate one-hundred thousand acres. This massive piece of construction of untold strength is one of the multiple dome type and the first of its kind to be built. Engineers all over the world are interested in tests now being made as to expansion and contraction of the walls. » In fire insurance there must also be a bulwark of strength, which holds ever ready a vast financial reservoir which can be drawn upon promptly and equitably satisfy the constant claim of losses. » The Home Insurance Company of New York is such an institution—whose strength has for seventy-eight years withstood the test of conflagration. » » » »



Cash Capital	\$24,000,000.00
Net Surplus	\$37,491,905.53
(Accumulated over 78 Years)	
Surplus to Policyholders	\$61,491,905.53
Additional Funds	\$40,721,992.00
(Pro rata Unearned Premiums)	
Reserved	
for Miscellaneous Accounts, Taxes, Dividends and Other Obligations	\$14,682,227.71
Assets	
Cash on hand, funds conservatively invested or current balances payable when due	\$116,896,125.24

THE HOME INSURANCE COMPANY NEW YORK

ORGANIZED 1853

WILFRED KURTH, President

59 MAIDEN LANE

Strength

« »

Reputation

« »

Service

After the Meeting

TO ONE WHO SMILED

You smiled at me and made my heart fill up
with joy,
A stranger ne'er before made me so glad,
For when my lonely cares would them annoy
You smiled and took away all feelings sad.

You smiled at me though thoughts of yours were
busy too
And made a happy heart as this you did.
But lonely cares might keep glad thoughts from
view
Had you not smiled and all my troubles hid.

You're new to me, yet I care not for this
You've made me wish for friendship close and
dear
A loving smile its mark should never miss
But takes away each cold and troubled fear.

You smiled at me, and I smiled back at you
With grateful heart for all you did for me
And now remembering may I do
A kindly deed by smiling sympathy.

(The above poem was written by a pupil of the 7B grade of the John Marshall Junior High School, Seattle, Wash., and refers to an incident which happened to the child on the first day of school.)

IN LOS ANGELES

An eastern teacher, who visited Los Angeles during the recent convention, met one of the inescapable real estate promoters who infest the community.

"Do you mean to say," asked the teacher, "that California actually has three hundred and sixty-five days of sunshine a year?"

"Exactly, madam," answered the Los Angeles realtor; "and that is a very conservative estimate."

SHE WON EASILY

The Telegram, Adrian, Mich., tells the following story: Norman Thompson, a member of the board of education, was solicited by a young woman who was taking subscriptions for a magazine. Her sales talk failed to interest him. Even her plea that she was earning her way through college failed to draw any money out of his pocket. Finally she proposed a wager. She would tell the board member the number of his birthdays. If she was correct he would pay her one dollar for the maga-

THE STRENGTH OF HARRIS

A coterie of schoolmen were seated in the lobby of a hotel during an educational gathering some years ago, when someone commented on the physical vigor of Dr. Wm. T. Harris, the United States Commissioner of Education, who was standing a short distance away engaged in conversation.

"Look at his broad shoulders and deep chest," was the comment of a superintendent. "He must have been an athlete in his youth."

"Well, I should think so!" broke in the late Frank A. Fitzpatrick, of Boston. "I have some good reasons for knowing something about his herculean strength."

"When I was a boy," continued Mr. Fitzpatrick, "I attended school at St. Louis, where Mr. Harris was the principal. One day I had been unruly, and when the teacher called in the principal I became defiant. I was a husky lad, who had had occasion to feel his own strength, and who had just enough confidence in his own muscle to believe that he could resist chastisement at the hands of any schoolmaster in the land."

"The threat on the part of the teacher, therefore, that Principal Harris would bring me to time, only served to amuse me. There was a sort of wicked chuckle within me over the prospect that the principal would engage in a futile struggle, as had occurred frequently before, and then retire from the room, red-faced and gasping."

"During the suspense which hung over the class, pending the arrival of the principal, I calmly contemplated the old bookcase which stood in the front part of the classroom, to the left of the teacher's desk."

"I still wore a smile of bravado when Principal Harris arrived."

"He approached me with a sort of businesslike air and directness that was surprising, and before I could gather my thoughts or get my arms and legs into an attitude of resistance, he had one hand on my coat collar and the other on the seat of my

zine subscription. If she was wrong he kept the dollar and she kept the magazine.

Mr. Thompson laid the dollar bill on his desk and the young woman said:

"You've had one birthday. The others are all anniversaries."

SCHOOL-BOY HOWLERS

Collected by H. Ainsworth

Define the first person.
Answer: Adam.

Inertia is that which tends to have a uniform motion in a state of rest.

CO₂ is used for keeping people from dying and for distinguishing fires.

A curve is the longest way between two points.

Geometry teaches us to bisect angels.

A litre is a nest of young puppies.

The liver is an infernal organ.

Herrings go about the sea in shawls.

To kill a butterfly you pinch its borax.

The tiger is a very voracious animal.

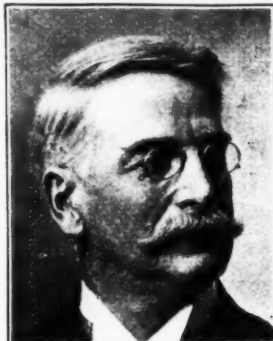
A cosmetic is for making people sick.

A mosquito is the child of black and white parents.

The king wore a scarlet robe trimmed with vermin.

What is the Soviet? What the middle-classes call their napkins.

Joan of Arc was the daughter of a pheasant.



FRANK A. FITZPATRICK

pants and swung me bodily on the top of the bookcase.

"There, young man!" said he calmly, "you will sit up there until you know how to behave yourself."

"And there I sat, high up in the air before the whole class. For several minutes I was too amazed to appreciate the situation, but I held my lofty seat and finally concluded that it would be cheaper to submit to the inevitable. Principal Harris had limbs of steel and the courage of a lion."

"I have loved and respected the man ever since and believe that the chastisement has done me a world of good."

AGENT VOSE'S TACT

A little tact at times goes a great way in school-book agency work. In fact, this commodity is indispensable and its proper application rests upon the intellectual resources of the agent, while frequently the elements of wit and humor must be uppermost.

L. D. Vose, of D. C. Heath and Company, many years ago looked after an adoption which was wearily pending in the school board of a small western town. The board was genial but slow — so slow that it tried Vose's patience. After frequent postponements the board met one afternoon at a lawyer's office.

The afternoon was consumed in talking politics, crops, weather, etc., while Vose was apparently a companionable listener. The shades of evening were lurking through the windows and he was still listening.

Finally, Vose said, "Let me tell you a story. I once met a schoolbook agent in a large city on a hot summer's day who sat immediately in front of a large building while the burning sun poured down upon his head. I asked him why he had selected this uncomfortable place."

"A school-board member has gone into this building and I am awaiting his return."

"But, man, you will perish here," I exclaimed.

"Very likely," he gasped, "I have sat here for two hours, but this is my post of duty, and here I remain till I die, or find my man."

"And the poor agent died waiting."

The inimitable manner in which Vose told the little story raised a laugh and everybody saw the point. A motion to adopt the Heath list of books was promptly carried, and unanimously at that.

By the Light of the Moon

Teacher: "When was Rome built?"

Percy: "At night."

Teacher: "Who told you that?"

Percy: "You did. You said Rome wasn't built in a day." — Ex.

"I wonder if Professor Kidder meant anything by it?"

"By what?"

"He advertised a lecture on 'Fools,' and when I bought a ticket, it was marked 'Admit one.'"

Correct

Teacher: "Harold, if you are always very polite to all your playmates, what will they think of you?"

Harold: "Some of 'em would think they could lick me."

Go to the Head!

Teacher: "Now, Johnny, what did Cæsar exclaim when Brutus stabbed him?"

Johnny: "Ouch!" — The Pathfinder.

Old Jokes are Best

"What is the matter?" asked the mother of a 5-year-old girl as she came home almost in tears after her first day at school.

"I don't like the teacher," she said.

"Why, you hardly know her. What has she done to you?"

"When I went in, she said, 'You sit here for the present,' but she never brought it." — Texas Outlook.

The Nation reports the following anecdote from the paper of a New York school girl regarding her examination in English:

"I only got B. I woulda got A, but I said Shelley wrote the piece on the nightingale and Keats the one about the skylark. I had the men right, but I got the boids twisted." — Exchange.

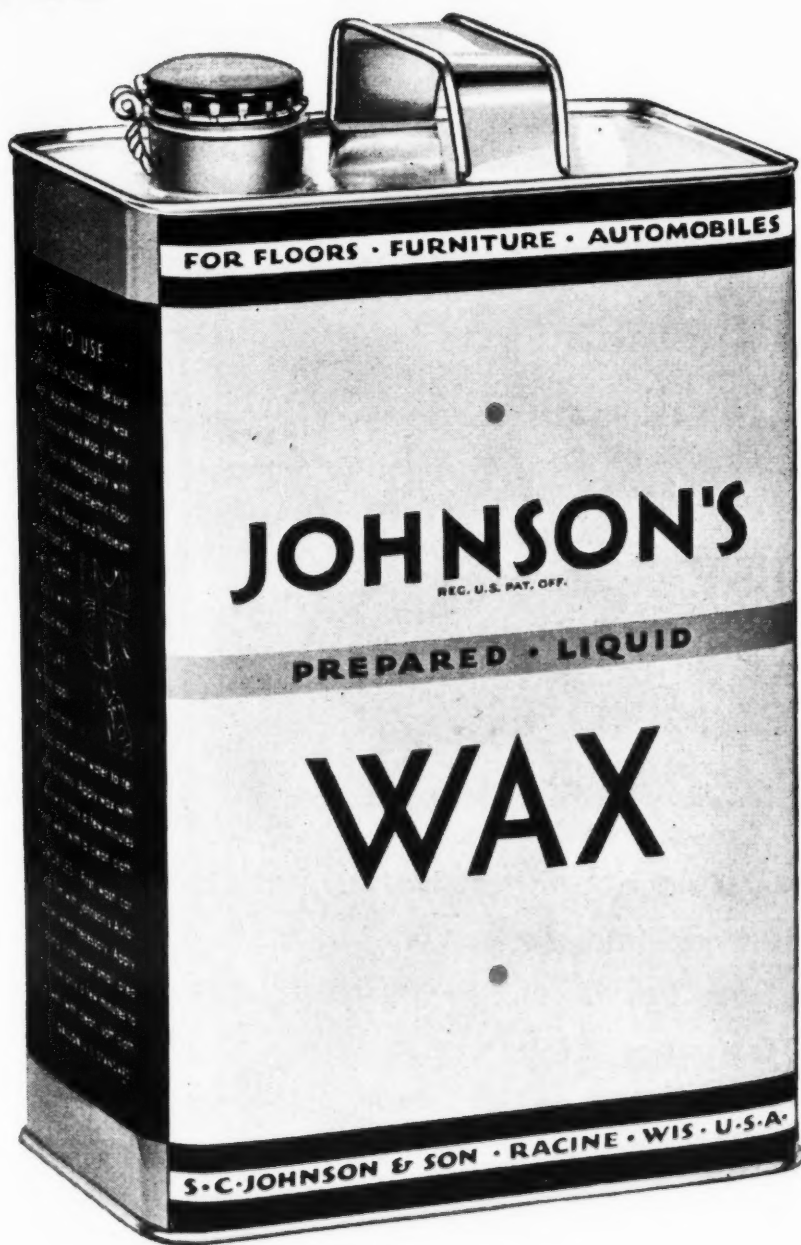


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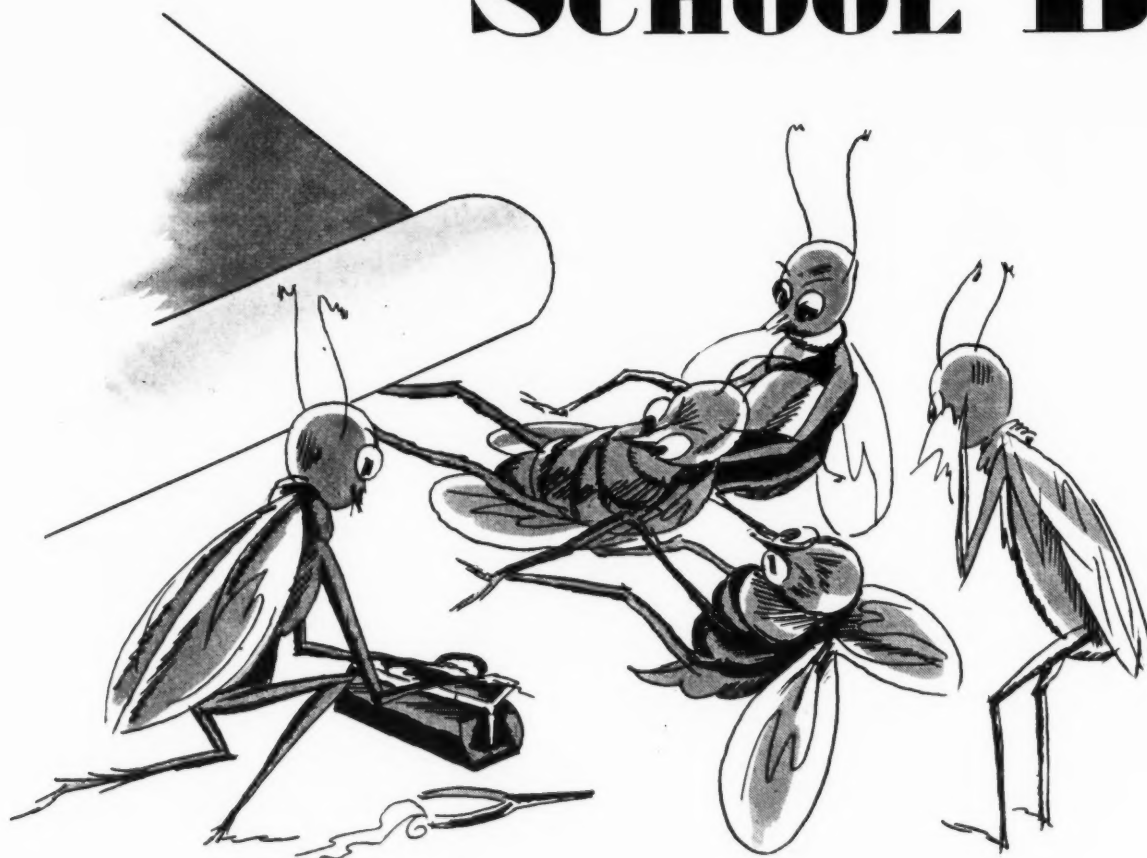
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Hattie Microbe vs. Middletown School Board.
\$50,000 Damages. Case
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SOLAR-BRITE is scientifically compounded from rich, undecomposed vegetable fats. It contains no alkali or other strong ingredients but depends upon the emulsification of the dirt by the smooth

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Floors of all kinds may be easily and quickly mopped clean with SOLAR-BRITE. It will not injure any of them—rubber, asphalt tile, mastic, wood, linoleum, marble, cement, terrazzo, tile, even waxed floors and floor coverings. For machine scrubbing it is unexcelled. Shipped in 5 and 10 gallon drums.

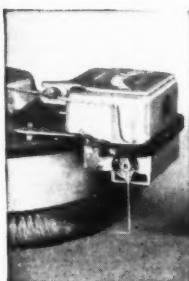
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